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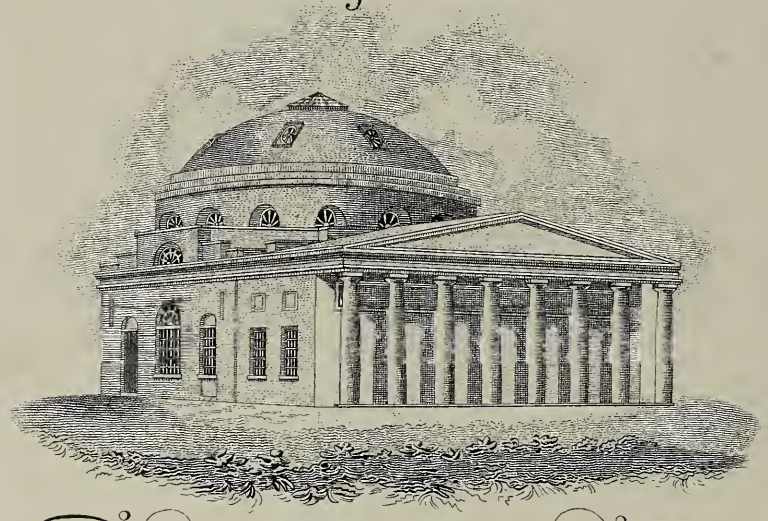

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GUEST EDITORIAL

Adoption
Basic Principles as Viewed by One Agency

"FOR better or for worse—till death do us part" is always a serious vow and doubly so in adoption when one of the human beings involved is too young to have a part in a decision that will affect him for life. Recently adoption has been the subject of many articles, wise and otherwise, with conflict of opinion not unusual, so it seems pertinent to state the points considered basic by one agency.

The natural parent is usually an unmarried mother, usually laden with guilt about her predicament and concern about the future. For the sake of that future the mother should know her baby is not being taken from her but rather that she is an effective person who is carrying out the plan she believes best. She should be offered help to know her strength as well as her problems, to know intellectually and emotionally the finality and loss in the plan which she is choosing because of conviction that its values are greater than its losses. Pain is inherent in this; it cannot be taken away or borne for her. The mother has a right to have her pain appreciated and respected rather than obscured, and help to get it out so that the wound may not heal over prematurely. When a mother does not know her pain and loss, and knows it inheres in a decision she had made, there is serious risk she may be the mother who is later haunted by regret or guilt, or who tries to change her mind and get the child back. Some specifics are needed from the mother: information about her baby's medical background and current health, information about the social background and human qualities of his progenitors, parental responsibility that stands back of him until plans can be completed, and finally the decision and legal steps that make him available. The method of working with a mother can be such that at the final signing of legal papers and perhaps with tears running down her cheeks, she says, "This hurts, but there has been good in it. I had my baby only a short time but I have loved him truly and given him a good life. I began it the wrong way but I ended by being a good mother. I have grown up, and although I understand what attracted me to the baby's father I would not fall into that again, because it is not what I want to make of my life."

To the baby we owe, among other things, parents sufficiently like him so that as years go by he will feel understood and valued. This presupposes that there is in him something inherently his, and that the home is chosen for the fulfillment of the child rather than the protection of the mother or the satisfaction of the foster parents, important as these are. This agency believes that there are qualities and capacities inherent in the tiny baby. The environment, i.e., his adoptive family, influences whether he makes the most or the least of his capacities but it does not alter basic quality. Frequently this quality is found to be different from the known parents, grandparents, etc. Only a study of the child himself tells which of the ancestral possibilities is actually present The resources of several professions are used to weld into a whole the knowledge of the child's physical endowment, intellectual capacity, the qualities of discrimination,

forcefulness, sensitivity, placidity, etc., shown in relation to people. For the average baby under favorable conditions such knowledge can be had at four to five months of age.

Adoption may appear the simple and obvious answer for couples unable to have their own children. In actuality it is very satisfying to some couples but it is not simple. It is a substitute for that which would have been better, own children, and the substitute cannot be whole-heartedly accepted until own children have been relinquished and sterility accepted. Sterility stirs feeling. It can strain a marital relationship or an individual's feeling about himself. Moreover, no matter how satisfying the adopted child is, he will always have something separate from his parents, perhaps symbolized in features unlike theirs, or the inevitable questions about himself with which he will need his parents' help. It requires a neat balance to assimilate this difference without magnifying or evading it. While the difference is inevitably present, it is good to have as much likeness as possible—likeness of physical type, of intellectual level, of sensitivity and pace. In determining whether a family can take a child with rich satisfaction to themselves and to him, the couple's hopes and fears, their qualities of sympathy and sturdiness are no less important than their income, education, and status. The great majority of couples who want to adopt are fine people. They come from all walks of life, which is fortunate as differing qualities in the babies need this breadth of choice. Because there are at least seven times as many families as children available, and few families are of a quality that calls for rejection, the disappointing delay in finding a child is understandable. The statement that "hundreds of children" need but do not get adoption is simply not accurate. There are many children in need of some kind of care from society but they are not available for adoption because they have parents who maintain their legal and human connection, or the children themselves have conditions of health, age, dullness or instability with which an adopting family could not be comfortable.

There are some babies to whom agency service should be available and now is not; agencies should prepare to offer it. One of the greatest deterrents to this is the insufficiency of available personnel with good training and depth of human understanding. Since training means two years of graduate work (academic study and supervised practice), since the field of social work is expanding rapidly, the salary level is not high, women constitute a large part of the profession and many leave it for matrimony, no improvement in the personnel situation has been noted.

LOIS BENEDICT

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SURGICAL ASPECTS OF CERTAIN NON-MALIGNANT COLON CONDITIONS: CHRONIC NON-SPECIFIC ULCERATIVE COLITIS, DIVERTICULITIS, MEGACOLON*

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(Introductory Remarks.) It is a great honor to be invited to serve as guest speaker under the auspices of the J. Shelton Horsley Memorial Lectureship, and I am keenly aware of the compliment and very grateful for it. It is particularly appreciated as I happened to know Dr. J. Shelton Horsley very well personally and was an admirer of his many remarkable qualities. Those of us who met him at meetings well remember his restless energy, his insatiable scientific curiosity, his original approach to many problems and the boldness with which he undertook their solutions. The many honors and recognitions that he won attest to the success of his professional career. I should like to record a personal note of obligation to him. He befriended me as a young and unknown surgeon. He gave me welcome, advice, and encouragement in the various groups in which he was an older and distinguished member. It is a happy opportunity to share in this annual occasion held in his honor, and I am grateful indeed to Dr. Guy Horsley for the invitation to be here.

Everyone who reads, either in the medical profession or the general public, must be aware of the great emphasis that is being placed on malignant disease at the present time. Cancer of the colon has received its fair share of such attention. One cannot help hoping that some good may result from this wide-spread interest, but at the same time it may be feared that other important conditions may suffer unmerited loss of interest. With this in mind, it seemed appropriate to discuss at this time certain non-malignant conditions affecting the colon, with especial emphasis on the surgical aspects of these conditions.

Chronic Non-Specific Ulcerative Colitis

Under this and similar names is included a group of conditions affecting the large bowel that is best described by exclusion and negative. Thus, one may say that it is an inflammatory state of the colon not apparently due to bacillary infection or amœbic infestation, not tuberculous or syphilitic, not due in fact to any known and proved causal factor and hence the terms idiopathic or cryptogenetic sometimes used to designate this form of chronic colitis. It is not even certain that we are dealing with a true disease entity. Perhaps several similar clinical pictures of different etiology are being grouped together, and we should speak of it as a syndrome rather than a disease. It is unprofitable to discuss here the numerous theories of causation, none of which so far has been accepted as valid. Nor shall I consider in detail the numerous and varied symptoms and complications that should be familiar to all. It is enough to say that the widest variation of intensity exists, from a mild disturbance of colon function, with some blood and mucus in the stool, up to terrible fulminant attack that may overwhelm the patient and result in death in a few weeks. Also the history of individual cases may show varying periods of apparent recovery with frequent relapses, or may be almost stationary, or may be slowly but steadily downward. The treatment of the condition is primarily medical, but there is no specific uniformly successful method. In general, supportive and symptomatic measures are employed, with varying degrees of success. There arise certain situations in which surgical aid seems desirable. The indications for such surgery, its rationale, and what may be expected in the way of results are the matters that the writer wishes to emphasize.

In general, it may be said that surgery should not be invoked until medical care has failed. Thus the static cases that fail to improve over long periods of treatment running to months or years—and those that grow worse in spite of treatment—constitute the conditions for operative help. Yet certain qualifications must be recorded. For instance, the writer saw a young woman, who had been ill for a year and a half, steadily but slowly growing worse in spite of the best known medical management. She had been hospitalized for a number of weeks without improvement. She had lost much weight, ran a daily fever, had frequent bloody and purulent stools. The

*The J. Shelton Horsley Memorial Lecture presented at the Richmond Academy of Medicine, Richmond, April 11, 1950.

proctoscopic examination showed a highly inflamed mucosa, bleeding easily, with many ulcers. The patient was advised to have an ileostomy done. When the nature of the operation was explained to her she baulked. She decided to leave the hospital, and against advice went home. Some months later I inquired about her, expecting to learn that she was dead. On the contrary, I heard that she had abandoned all treatment, eaten everything she wished, started forthwith to improve, and was now apparently nearly well. This case, I think, must be put down as one of the characteristic but unpredictable remissions so well known to occur at times in the course of the disease.

The decision of the patient to disregard surgical advice is not always followed by such a happy outcome. Another young woman was seen in the midst of a much shorter but sharper illness. After only six weeks, she was gravely ill. She had lost thirty pounds, was suffering severe and almost constant abdominal griping pain, had a high fever and almost constant diarrheal discharges. It was a question whether she would tolerate any surgical intervention, but as this seemed literally her last resort, operation was advised. She refused, and was taken home to a town fifty miles away. Two weeks later she was brought back by ambulance, arrived in moribund condition, and died a few hours after admission to the hospital without operation. Autopsy revealed a large bowel almost destroyed by ulceration, with five separate perforations, and general peritonitis. Whether ileostomy at the time advised might have forestalled this final development is, of course, impossible to say.

The surgical principle of treatment is to throw the entire colon, or at least that part of it involved in disease if the process is segmental, entirely out of physiological function by diverting the food and intestinal contents out of the colon. In general this is now accomplished by performing a complete transverse ileostomy, bringing the severed end of the ileum out on the abdominal wall. The colon is put at rest, and it is hoped that with rest healing may take place, or at least the further progress of the disease may be checked. How successful is this form of treatment? Opinions vary. The writer would state his experience about as follows: Three different consequences may follow the doing of an ileostomy. The colon may heal. All symptoms may disappear. The x-ray and proctoscopic examinations of the colon may show a return to normal. The improvement may justify a closure of the ileostomy. Before this decision is reached the writer has employed the following test. A liter of normal salt solution is injected into the rectum, and then expelled. It is collected, centrifuged, and the sediment examined microscopically for pus and blood cells. If none are found, the closure of the ileostomy is advised. Unfortunately the percentage of cases falling within this first group is small, perhaps not over 10%. A much larger group comprises patients who show great clinical improvement, in fact an apparent general systemic recovery with disappearance of complaints. But the colon itself is not healed. Examination shows persistent signs of inflammation of the mucosa and it is quite evident that it would be unwise to close the ileostomy. These patients often are quite able to resume their usual occupations with the ileostomy still open. They present a problem as to their future course. Some of my cases have continued in this same status for many years, without change. However, some of them gradually develop increasing trouble in the form of increasing discharge from the defunctionated colon. A few of them develop malignant changes in the colon, as recently emphasized by Sauer and Bargen of the Mayo Clinic[1]. When such circumstances impend, the decision should be made to give up hope of salvaging the colon, and a total colectomy should be performed, with of course the resultant permanence of the ileostomy. Still a third category of cases is that in which the patient makes neither a local nor a general recovery following ileostomy, but continues progressively down hill. As soon as this situation becomes clear, and as soon as the patient's recovery and adjustment to the ileostomy is established, there is nothing to be gained by further delay. The completion of the treatment of such cases is early total colectomy.

The account just given represents the personal views of the writer in regard to the surgical treatment of chronic non-specific ulcerative colitis, and it is closely similar to that of a number of other surgeons. In this view, it becomes of importance to distinguish as soon as possible those cases that may be destined to have an ileostomy done, and to do it early, in the hope that the percentage of cases completely cured, in whom the ileostomy may safely be closed, can be increased, and that the number ulti-

mately requiring total colectomy may be diminished.

Not everyone takes this attitude toward the role of ileostomy in the treatment of chronic ulcerative colitis. Dr. Henry Cave, in various statements, has advanced the view that ileostomy should not be regarded as a definitive treatment for these patients, but merely as the first stage of a program leading to total colectomy. Dr. P. H. T. Thorlakson[2] goes even further in this direction. He feels that cases recovering after simple ileostomy would probably have had a spontaneous recovery anyhow and that the operation was unnecessary. All the others, he thinks should uniformly have ileostomy followed by total colectomy, after the decision has been made that they require operative treatment. This is not the place to elaborate further discussion. It should be said, however, that the experience at the Lahey Clinic endorses my own opinion that relatively early ileostomy in cases that are not doing well will give a larger number of apparent cures with closure of the ileostomy.

Before dismissing this topic, on which so much more might be said, attention should be called to the rare, but quite recognizable, type of case in which the disease is limited to a segment of the colon, the rest of the large bowel being practically normal. In these cases, early colectomy of the involved segment, with either immediate or delayed anastomosis is the advised treatment. Also a word about the technique of ileostomy. There are a number of more or less complicated procedures published. My own choice is a small incision, a direct and simple division of the low ileum, with closure of the distal end and externalization of the proximal stump in the same wound. In summary, it is important to recognize that chronic ulcerative colitis is a fairly common condition, that it presents a wide range of intensity, that it is characterized by periods of remission and recurrence, and that the methods of medical management not infrequently fail to cure protracted cases or to check fulminant cases. In such circumstances, surgery in the form of ileostomy, to put the colon at rest, offers definite benefit. There is division of opinion as to whether ileostomy should be regarded as an independent procedure, to be followed only occasionally by colectomy, or merely as the first step in the necessary performance of a colectomy. My own opinion favors the first view, with the consequent feeling that earlier ileostomy will yield a larger percentage of cases in whom recovery will justify the closure of the ileostomy and the avoidance of colectomy.

Diverticulitis

For a condition of relatively recent general recognition a great deal has been said and written about diverticulosis and diverticulitis. So true is this, that one may question the propriety of including further comment on the subject here. However, there are certain personal observations and opinions that may justify expression on this occasion. For a sound general discussion of the subject, reference is made to a paper by Dr. John Morton[3]. Most of us are aware that the widespread recognition of this fairly common condition followed the general study of the alimentary tract by means of the X-ray. It is also commonly known that many people in middle life develop diverticula quite without symptoms, and that when symptoms do arise, the primary method of treatment is medical. Neither the diverse symptoms nor the various medical measures employed need be discussed now. However, there are circumstances in which surgery must be called on to meet complications that are not uncommon. The most dramatic of these are due to perforation or impending perforation of an inflamed diverticulum. It has often been said that such attacks resemble left-sided acute appendicitis. This is true; but the writer once operated for what he believed to be ordinary appendicitis and found a long sigmoid lying to the right, with a perforated diverticulum. In such cases prompt operation is often necessary to save life. It is my belief, however, that the actual operative procedure in the fulminant cases should be simple and conservative. The bowel is apt to be widely edematous, indurated, and heavily infected. Efforts at resection, or even local suturing are not well tolerated. Often the wisest plan is to isolate the area of perforation and infection by packs from the rest of the abdominal cavity and come out. If circumstances justify it, a transverse colostomy often is advisable. Many cases that are less rapidly fulminant produce a mass in the left lower quadrant of the abdomen, but under conservative handling the process will subside. Such conservatism is justified with certain qualifications. If the evidences of inflammation slowly increase, an abscess probably needs draining. If the patient begins to complain of urinary symptoms, it strongly suggests that the infected bowel is closely related to the bladder and that a vesicosig-

moid fistula may be impending. As such a fistula is a major complication, very difficult to manage, it should be forestalled by immediate operation before the break-through occurs. In the more chronic cases, semi-permanent masses of indurated bowel with symptoms of partial obstruction develop. On this basis there are apt to be recurrent episodes of exacerbation of symptoms. Sometimes it is very difficult or impossible to distinguish these forms of diverticulitis from malignancy. Sometimes, indeed, both conditions may be present. The former view that bleeding into the bowel is pathognomonic of malignancy cannot be maintained. The writer has records of a number of cases of marked bleeding, in which the only evident cause was diverticulitis. These chronic cases as a rule are not amenable to medical management and require surgery. In some situations the first operative step may wisely be a colostomy proximal to the lesion, to permit the subsidence of inflammation. When the definitive attack on the lesion is undertaken, the writer is leaning more and more to the views expressed by Smithwick[4] and others, that a radical attitude should be adopted. A case in point may be cited. The whole left side of the colon from the splenic flexure to the rectum showed multiple diverticula, and in one area there was evidence read by the roentgenologist as highly suggestive of cancer. The patient was explored and both these findings were corroborated. A resection of the large bowel from the mid-transverse to the rectum, with the associated lymphatic drainage area was carried out and an immediate anastomosis of the transverse colon to the rectum was accomplished. The recovery was uneventful. It would seem, in view of the frequent wide distribution of diverticula, that this principle of segmental rather than local resection is worthy of further consideration and employment. Smithwick[4] bases his preference for preliminary colostomy, to be followed after several months by generous resection and anastomosis, on the fact that his study of long term results after various other methods of surgical handling was less satisfactory. It may be of interest to quote also Smithwick's figures on the frequency of the lesions we are considering here. He states that 50% of those over 40 years of age have diverticulosis. About one in 12 of those with diverticulosis develop diverticulitis; about one case in 10 of these needs operation. This works out to an operative incidence of one in 2,500 of those over 40 years of age.

MEGACOLON

This condition is variously named giant colon, megacolon, magadolichocolon, Hirschsprung's disease, and other things. The theories of its origin are also numerous. Among other explanations may be mentioned congenital malformation, sympathetic-parasympathetic imbalance, anal or retrosigmoid stenosis, endocrine disorders, etc. It is customary to distinguish a true congenital form and an acquired type. Although the disease is regarded as rather unusual, it is by no means a great rarity. Most of its characteristics are well known; the profound obstipation, lasting sometimes for weeks at a time, and so difficult to overcome, the protuberant abdomen with general malnutrition, and the X-ray findings of a huge, dilated and elongated colon. Many cases are recognized in infancy, but there are instances of the late appearance of the condition in adult life. It should also be borne in mind that certain cases are segmental, only a part of the colon being involved.

As may be expected, when so many theories of origin exist, there are also many approaches to the problem of treatment. In cases where definite obstruction can be discovered, as in infants with imperforate anus that has been incompletely corrected, the obvious attack is to remove the obstructive condition either by prolonged dilatation or a plastic procedure. The more problematical forms of obstruction attributed to a stenosis or rigidity in the rectosigmoid region have been subjected to resection of this area, with anastomosis. Many cases have been treated on the basis of a neurogenic origin, and splanchnicectomy or spinal anesthesia or sympathectomy, unilateral or bilateral, has been carried out. Treatment by various drugs of the choline group or by hormones, in addition to dietary control, bowel irrigations, systematic catharsis, etc., has also had wide application, and is usually the first line of attack. Finally, radical surgical removal of either a segment or of the whole colon has been advocated and practiced.

It is desirable to appraise this wide choice of methods and to attempt to reach a rational position in regard to the handling of this interesting group of cases. The first fact to get clear is that here, as elsewhere, the treatment should be adapted to the specific case, and that no universally applicable method should be insisted on. It is also of importance to be sure that methods of treatment should not carry side-effects that are highly undesirable.

In this connection certain findings have been reported about patients treated in infancy or early childhood by sympathectomy. If a unilateral sympathectomy is done, usually on the left, there may be notable elongation of the leg on that side compared to the non-operated side. This is attributed to the removal of vasoconstrictor control from the large arteries of the leg with consequent relative hyperemia and overgrowth of the epiphyses of the bones, compared to the other leg. If a bilateral sympathectomy is done, this asymmetry in growth of leg length is avoided, but there are statements that bilateral sympathectomy entails sexual impotence.

So far as the success of the various forms of treatment is concerned, there is a diversity of opinion. The use of the choline series of drugs apparently helps to control certain cases, but many are not much improved. It should be noted also that the choline drugs are by no means free of harmful effects themselves, and must be used with care and knowledge. The removal of anal or rectosigmoidal stenoses may be very helpful provided that they are really demonstrable to exist, which is often not the case, and provided that the changes in the colon are not of such degree and long standing that they have become irreversible—which unfortunately often is the case. This aspect of the problem will be discussed in more detail later in this paper. There is wide difference of experience as to the lasting benefit to be expected from any of the operations upon the autonomic nervous system. It may be said with certainty that this method has not yet established itself as generally acceptable.

It has been the author's experience that the best method currently available is the surgical resection of the abnormal colon. Certainly in the exceptional cases where the process is limited to a segment of the colon—usually the sigmoid,—there is no doubt that the effective treatment is resection of this segment. The performance of a total colectomy in one of these patients, with a huge bowel of long standing, in generally poor condition, is admittedly a rather formidable procedure. However, with careful preoperative preparation, and perhaps with the operation divided into two or more successive stages, it is possible to carry out removal of the whole colon to the lower end of the sigmoid without great risk. The writer has had occasion to do this in a number of cases, without mortality so far, and with generally satisfactory results. One must not expect an immediate and complete inauguration of normal bowel movements after colectomy. Usually some months elapse before regulation is established. When the operation ends with an anastomosis of the ileum to the lower sigmoid or rectum, some period of diarrhea is to be expected until adjustment of ideal function takes place. In general, however, the results are so much better than those attained by other methods that it has become, for some years, the method of choice of the writer.

It should be noted that within the last year, publications by a group of Boston investigators, Swenson and his associates[5], have called attention again to the importance of conditions in the rectum or the rectosigmoid in causing megacolon. They limit their comments to what they speak of as a true congenital megacolon, originating at birth or very soon afterward. Their cases have all been infants or young children, and they specifically exclude from discussion the acquired or adult forms. With these qualifications, they believe that megacolon is purely a hypertrophy and dilatation of the bowel because of a partial obstruction in the rectum or rectosigmoid. This obstruction is due to failure of proper and effective peristalsis in the segment, which in turn is due to absence or abnormality of the intrinsic nerve plexuses and ganglion cells in the bowel wall. Hence the neurogenic lesion is conceived as local and not involving the autonomic system itself. They report histological studies supporting this theory. They also state that the condition may be recognized by X-ray examinations carried out by a special technique. Applying this idea in the field of treatment, they have resected the supposedly abnormal rectum and rectosigmoid, and by a pull-through operation have anastomosed the upper stump of the sigmoid to the anus with preservation of the sphincter. They report satisfactory results with regressive change in the large bowel toward normal and return of function. Two comments are appropriate here. First, the authors make no claim for application of this method to cases not of apparent congenital origin, or, as they say, true Hirschsprung's disease occurring in the very young, and hence exclude many of the most advanced and long-standing cases. Second, the follow-up of their results is at present of comparatively short duration.

Bearing on this phase of the subject, mention may

be made of papers presented about three years ago before the Academie de Chirurgie of Paris. Several of these writers agree in condemning all the treatments except surgical excision. One of them, Marcel Fevre[6], believes much as the Boston group mentioned above, that the normal operative treatment should be segmental resection of the sigmoid with extension below the rectosigmoid area to remove the assumed obstructive area. He qualifies this view by saying that it would not apply to cases of megarectum, and that some of the other cases might require a total colectomy. Two other papers, by M. J. Mialaret[7] and Jacques Hepp and Pierre Petot[8], appearing in the same volume of the Memoirs of the Academie de Chirurgie, record failures of the segmental resections just described in adult patients, with subsequent total colectomy that apparently was successful. A final word on this subject may be a reference to the work of Grimson, Vandegrift, and Dratz[9], appearing in 1945. These writers report observations on 24 cases of Hirschsprung's disease. Only 7 of these cases presented undilated rectal and rectosigmoid segments with the rest of the colon involved in the hypertrophic process. These writers regarded the undilated distal segment as normal and advocated the preservation of this segment to which the ileum is anastomosed, after the rest of the colon has been resected. They report good results in a few cases treated by this method. It will be seen that this is exactly the opposite of the view of the Boston group of Swenson, *et al.*[5] In one case, the distal segment that is not enlarged is carefully preserved and the rest of the colon removed (Grimson *et al.*), and in the other case this segment is regarded as the basic cause of the trouble and is the only portion that is resected (Swenson).

Time will be required to clarify this confused situation. The present writer would call attention here to the increasing emphases being placed on surgical attack as the most promising method of dealing with the problem, and to repeat his own feeling that total colectomy—in the long-standing cases,—is the most logical procedure and offers the best prospects at the present time.

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18 West Franklin Street.

Special Training for Workers With Cerebral Palsied.

A special four-week training course for employment and placement counselors working with cerebral palsied and other severely handicapped workers will be held March 12 through April 6 in New York. This will be given at the Institute of Rehabilitation and Physical Medicine of the New York University-Bellevue Medical Center under the auspices of the school of education of New York University.

Applications and further information may be obtained from the National Personnel Registry and Employment Service of the National Society for Crippled Children and Adults, 11 South LaSalle Street, Chicago 3, Ill.

AMICROBIC PYURIA

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Recent urological literature contains several reports of a urinary tract disease which has only lately been recognized and treated effectually. This disease has been variously described as "Abacterial pyuria"[1], Amicrobic pyuria[2], Primary sterile pyuria.[3] As the terminology indicates, the etiology is as yet undetermined, although many pathogens, including bacteria, toxins, fungi and ultramicroscopic agents have been investigated.[4] At present most writers believe the causative agent to be a virus.

The predominating features of the disease are: 1. An inflammation of the mucosa and submucosa of a portion or all of the urinary tract, varying in severity from a mild urethritis to a fulminating cystitis and pyelonephritis. 2. Smears and cultures of the urethral discharge and urine are negative for bacteria. 3. There is no response to treatment with the usual antibiotics but dramatic relief with arsenicals.

As stated, the clinical picture varies from mild urethritis to severe cystitis and pyelonephritis, the onset of which may be abrupt or insidious. Usually, the patient complains of an increased frequency of urination and nocturia, one or two times, and slight burning on urination. A thin whitish discharge is frequently noted. There may be a history of sulfonamide and penicillin administration without relief. When the bladder is involved, the patient presents himself with severe pain on urination, frequency, urgency, nocturia and even strangury, with gross terminal hematuria.

The physical examination, when the urethra alone is affected, reveals nothing other than a scanty urethral discharge. With involvement of the upper urinary tract, the patient looks ill. There may be tenderness in both costovertebral angles or the suprapubic area, and the prostate may be exquisitely tender. The temperature is usually elevated one or two degrees, but does not run the regularly peaked course expected in acute pyelonephritis of bacterial origin.

Laboratory studies are of little positive assistance. When the urethra alone is involved, the two glass test will reveal the first urine to be hazy with fine shreds, and the second clear. With involvement of the upper tract, both glasses are cloudy and there may be blood in the second glass. Stained smears of the urethral discharge or urinary sediment show innumerable pus cells but no organisms, nor can organisms be cultured from either. The blood picture usually shows little or no change, unless renal damage has been sustained when there may be azotemia. If the upper urinary tract is involved, in order to arrive at a correct diagnosis, cystoscopy may be necessary. On inspection, the bladder shows the evidence of a severe acute cystitis. It is contracted, fiery red, edematous, with patches of fibrinopurulent exudate scattered over the surface. Frequently, the ureteral orifices cannot be recognized.

For the pathological picture of amicrobic pyuria, it is necessary to depend on bladder biopsies and the few reports of kidneys removed supposedly for tuberculosis but later found to have sterile pyuria. Such cases have been reported by Schaffhouser and Runebert.[5] No disease was found in the parenchyma, and all changes were confined to the mucosa and submucosa of the pelvis and ureter, which was thickened and edematous with adherent fibrinous exudate. Microscopically, there was inflammatory reaction down to the muscle layers, with some tendency to form follicles of lymphocytes, eosinophiles, and plasma cells. In none of the pathological reports were organisms seen on microscopic examination. Hess[6] *et al.* have reported bladder biopsies showing hemorrhage and mild inflammation of the mucosal stroma. Biopsy from case #2 of this report shows epithelial desquamation, with organizing fibrin and leukocytes in the submucosa (Fig. 1).

From these studies, we may assume the disease is one of the mucosa and submucosa. The fact that with proper treatment there is rapid and complete recovery is further evidence that the inflammation does not leave cicatricial tissue in the muscle layers of the urinary tract.

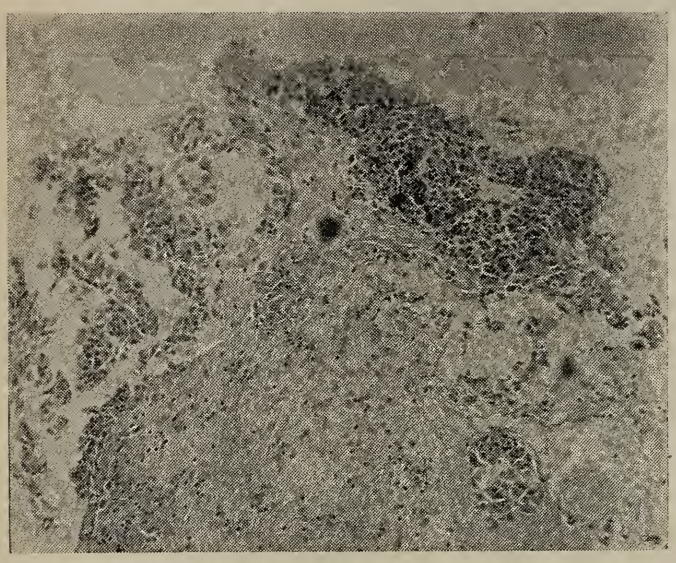

Fig. 1. Biopsy of bladder, Case 2. Submucosal edema and infiltration.

The diagnosis is made by exclusion; the patient apparently is suffering from a mild or severe infection of the urinary tract as evidenced by the presenting symptoms and the pyuria. Cultures and smears of the urine, however, are negative for the common urinary tract pathogens and for tubercle bacilli. The administration of antibiotics is of no value but arsenicals give prompt relief.

CASE REPORTS

Case 1. This man was first seen on May 16, 1949. He was complaining of an urethral discharge occurring at intervals for the past three years. He stated that there was slight burning on urination, also, that driving or sitting down for long periods of time gave him discomfort in the perineum. He had been given a course of penicillin and also of sulfonamide without any change in discharge. The first attack occurred while in the Army and had been benefited by penicillin and sulfonamides and also by prostatic massage but the discharge had never disappeared entirely. A short while after the urethritis first appeared he had "rheumatism" in both knees. He stated that he had never had conjunctivitis. Physical examination revealed a well nourished and developed but small thirty-four year old white male. The physical examination was within normal limits except for the urinary tract. The urethral meatus was small, admitting only a number twenty bougie. There was a scanty urethral discharge, stains of which were negative for gonococci. No organisms of any kind were seen. The prostate was small, tender and firm. Smear of the prostatic fluid revealed scattered clumps of pus cells. The first voided urine was hazy with many shreds, the second clear.

In as much as prostatic massage had been helpful during the first attack of urethritis while in the Army, it was decided to do nothing but massage his prostate. The patient returned five days later and the findings including a negative smear were identical with those of the first visit. Three-tenths of a gram of neoarsphenamine were then given daily for the next five days, at the end of which time the patient stated that the discharge was less, but the first urine still showed as many shreds as ever. The second glass of urine was clear. One week later both urines were clear. The prostate was massaged and there was still an occasional clump of pus cells present. There had been no urethral discharge for four days. Eight days later the patient was seen again at which time he had had no discharge for twelve days and no subjective urinary symptoms. The first urine was clear with 1-2 mucus shreds, and the second glass clear. Meatotomy was performed on 6-18-49. A #26 Bougie encountered no resistance. The urine on 6-22-49 was clear.

Case 2. A young colored male, age 35, history #65980, was admitted to St. Phillip's Hospital on 4/25/49, complaining of "passing water every few minutes". There was progressively increasing frequency of urination, dysuria, and terminal hematuria over a period of two months. Moderate costovertebral tenderness bilaterally had been present for three weeks. Sulfonamides had proved without benefit. Four weeks prior to admission he had developed generalized stiffening of joints, especially in the right ankle where there was pain, swelling and local tenderness.

His history revealed no previous similar urinary tract symptoms but many episodes of urethritis, the last, six months prior to admission. In 1942 he was hospitalized at Bellevue Hospital because of similar arthritis in right ankle. No history of conjunctivitis. Other systems were entirely negative.

Physical examination revealed a temperature of 100 F., pulse 90, res. 20, B. P. 130/90. Head, chest, heart examinations were negative. There was moderate costovertebral angle tenderness bilaterally but neither masses nor spasm. The external genitalia were normal and there was no urethral discharge. Rectal examination revealed a normal sized, smooth, boggy prostate. There was enlargement and tenderness of the right ankle joint with partial loss of motion. There was arthralgia in the right knee, right shoulder and cervical spine but no decreased range of motion.

The laboratory data showed a NPN of 42 mgs. %, serology negative. The hemoglobin was 11.2 grams; no leukocytosis was present. The urine contained one plus albumen and no sugar. On microscopic examination, the urine was loaded with white blood cells and 15-20 red blood cells per high power field but no casts and no bacteria were seen. Urine cultures taken one day, five days, ten days, and twelve days after admission were bacteriologically sterile. The day after admission cystoscopic examination was attempted and a small, contracted bladder, lined by strings of purulent exudate was found. It was impossible to catheterize the ureters. Intravenous urograms revealed impaired function with grade three hydronephrosis bilaterally (Fig. 2). Admission chest plate was normal. X-ray of right ankle showed marked decalcification of the ankle and tarsal bones with narrowing of the joint spaces.

On admission, the patient was started on penicillin 30,000 units every three hours and streptomycin .2 gram every three hours. There was no improvement. On the fourth hospital day mapharsen was commenced and was given every other day for seven doses. After the second .06 gram dose improvement was rapid. Dysuria and backache ceased. Increased frequency of urination diminished so that at the time of his discharge he was having nocturia two times. Pain in the right ankle never entirely disappeared, but improved until he was able to walk without crutches for the first time in six weeks. There was rapid improvement in the degree of hydronephrosis (Fig. 3). Before discharge he was cystoscoped and the bladder capacity found to be normal. Retrograde pyelograms were made showing almost normal configuration (Fig. 4). He reports, five weeks after leaving the hospital, that he has no urinary trouble but the joint pain shows no great improvement.

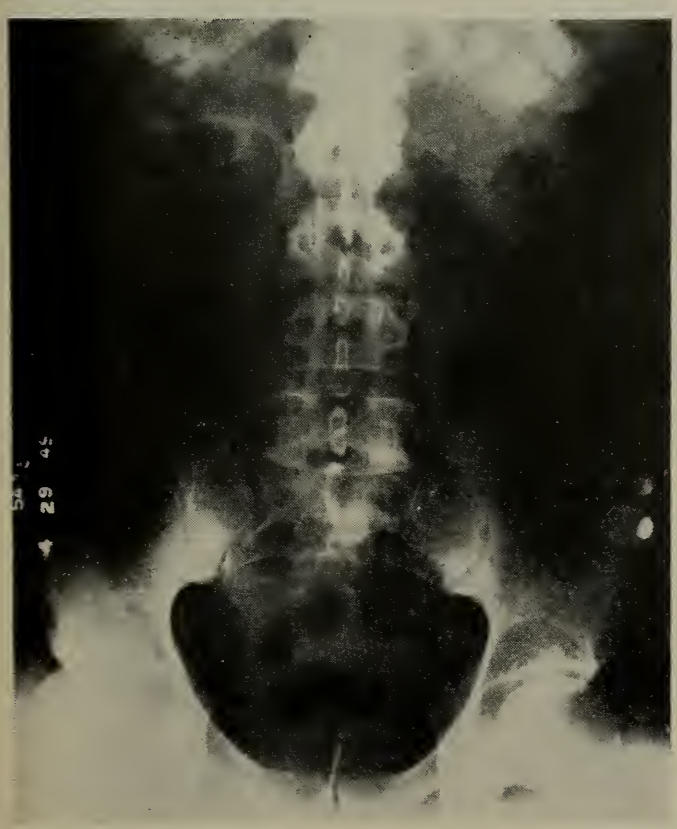

Fig. 2. Intravenous urogram, Case 2, prior to mapharsen therapy. Note caliceal dilatation.

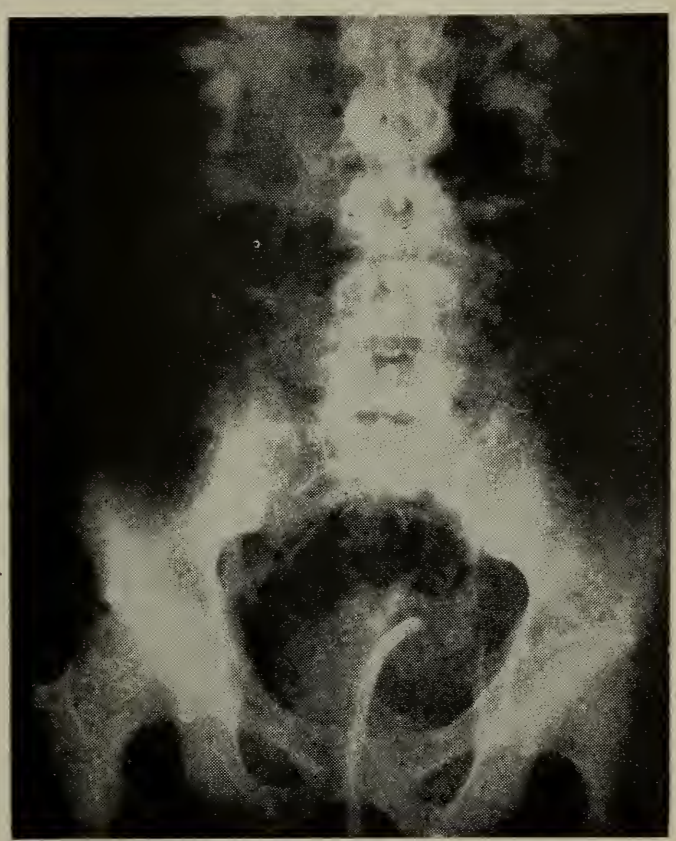

Fig 3. Intravenous urogram, Case 2, one week after mapharsen therapy.

Fig. 4. Retrograde pyelogram, Case 2, two weeks after mapharsen therapy. Calices are pointed. Ureters catheterized easily.

DISCUSSION

The two cases presented typify the mild and severe types of this disease. It is of interest that both of these men had been treated with the usual measures for months with slight improvement but without cure. The first patient had been annoyed by an urethral discharge for three years and was relieved in one week by neoarsphenamine. The second was transformed by mapharsen from a critically ill patient into a convalescent in five days.

Also of interest is the fact that both of these men gave histories of joint involvement. If either had suffered from conjunctivitis, his findings would be considered typical of Reiter's syndrome, a symptom complex of unknown etiology characterized by arthritis, conjunctivitis and urethral discharge. Speculalation naturally arises as to whether or not amicrobic pyuria represents a phase of the disease which produces Reiter's syndrome, in which only one or two of the triad of signs are present. This concept has recently been advanced by Landes and Ranson[7] who make the following statements in comparing the two diseases. "The age distribution of Reiter's disease, like that of abacterial pyuria, is chiefly between the twentieth and thirtieth year. It appears to be limited to males. Like abacterial pyuria, it is found most frequently among soldiers or former soldiers. Both diseases have a duration of weeks to months. In neither have etiological agents been discovered. No organisms are found in the pus filled urine. Fever and neutropenia are of low grade or absent in both. Both end in eventual recovery without residual damage but have a tendency to recurrences." It has not been our experience that the disease was limited to males. Another contribution along the same line is that of Hollander[8] who describes twenty-five cases of arthritis resembling Reiter's disease in which fourteen were atypical in that there was no conjunctivitis.

SUMMARY

The clinical picture of amicrobic pyuria is described and illustrative cases of the mild and severe type summarized.

A comparison of amicrobic pyuria with the syndrome presented by Reiter in 1916 is made with the suggestion that in view of the many points of similarity between the two diseases and the proven value of arsenicals in the treatment of amicrobic pyuria, these drugs should be given a thorough trial in the treatment of Reiter's syndrome.

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THE TREATMENT OF BENIGN LESIONS OF THE STOMACH AND DUODENUM*

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I. Ulcerative:
   1. Nonspecific (Peptic).
   2. Specific:
      Syphilitic.
      Tuberculous.
   3. Chemical:
      Alcohol.
      Corrosive poisons.

II. Hypertrophic:
   1. Muscle at pylorus.
   2. Rugae of pyloric portion.

III. Tumors:
   1. Leiomyoma.
   2. Adenoma.

IV. Diverticula:
   1. Of stomach.
   2. Of duodenum.

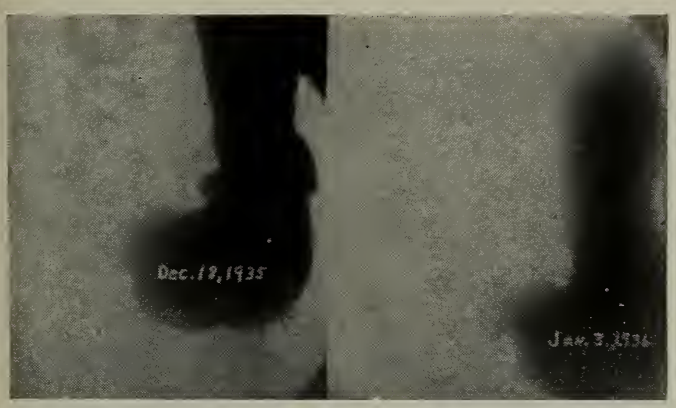

Fig. 1—Gastric ulcer healing on medical treatment. No operation.

In general the diagnosis of benign lesions of the stomach and duodenum is not difficult but in certain borderline cases may be puzzling; an example of the latter is the large gastric ulcer on the lesser curvature which may be either benign or malignant. In this discussion the diagnosis will be considered only where its uncertainty would influence treatment.

Peptic ulcers of the stomach and duodenum are primarily medical conditions and should almost always be treated before operation is considered (Fig. 1), the exceptions being perforation, severe hemorrhage, and the possibility of malignancy. The indications for surgical intervention are:

1. Pyloric obstruction (Fig. 2).
2. Repeated hemorrhage (Fig. 3).
3. Increasing penetration.
4. Failure of adequate medical care.

The last two conditions are indicated by persistent pain, often very severe when penetration into the pancreas is present. One should be more inclined to advise operation on gastric than on duodenal ulcers because there is an error of about 15 per cent in the diagnosis between benign and malignant ulceration of the stomach (Fig. 4), while malignant ulcerative lesions of the duodenum are so rare that they may be practically ignored.

Almost always the operation of choice is resection of the stomach and proximal duodenum including when possible the ulcer itself. I feel that there is

Fig. 2—Pyloric stenosis from duodenal ulcer, the stomach and ulcer bearing area of duodenum was resected. In this type of lesion, gastroenterostomy is adequate in poor risk patients.

From the Surgical Service of the Hospitals of the Medical College of Virginia.

*Read before the West Virginia State Medical Association, at White Sulphur Springs, West Virginia, July 27, 1950.

Fig. 3—Gastric ulcer resected for massive hemorrhage. The open artery can be seen in the ulcer.

no place for vagotomy in the treatment of primary ulcer except that it may be done as part of the operation of resection in certain cases. I do not practice massive resection, and usually remove not more than

Fig. 4—Gastric ulcer not adequately responding to medical treatment. At operation it was found to be malignant.

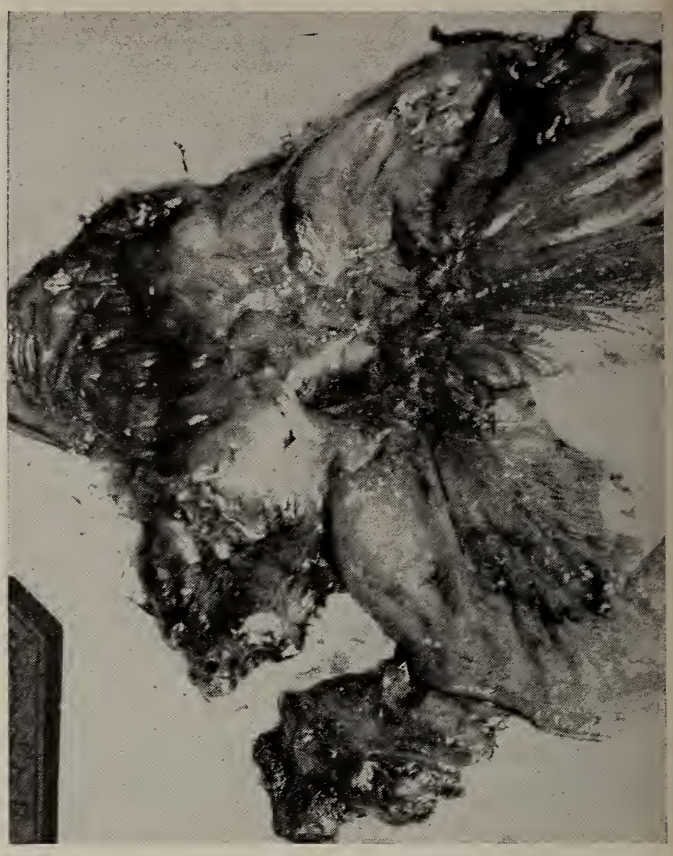

Fig. 5—Syphilis of stomach. The gross appearance of the annular ulceration of the pylorus.

two-thirds of the stomach. The Polya type of repair is my preference, placing the anastomosis either anterior or posterior to the colon as seems best. If it is placed posterior the mesocolon must be sutured to the stomach. The Hofmeister method of narrowing the stomach opening is rarely used because the opening which functions for emptying is the distal jejunal stoma and is not influenced by the length of

Fig. 6—Microscopic picture of the luetic lesion. The endo and periphlebitis is shown, one large vein has been destroyed.

Fig. 7—Syphilis of the stomach, the smooth funnel shape deformity is typical.

the stoma. The anastomosis may be iso- or anti-peristaltic according to the fit to the jejunum, and the proximal loop must be long enough to prevent tension but otherwise should be as short as is convenient. Anastomosis between the loops of jejunum

Fig. 8—Contracted stomach due to scar of burn by zinc chloride. Total gastrectomy was done.

is rarely done for the reasons that it is in general not necessary, it probably functions poorly and if it does function it would remove the alkaline duodenal fluids from the suture line thereby increasing the possibility of stomal ulcer.

Total gastrectomy is rarely indicated in benign lesions but occasionally in very large benign ulcers in the cardiac portion of the stomach it is necessary to remove the entire organ.

Gastroenterostomy usually posterior is an adequate procedure in cases of cicatricial stenosis of the pylorus particularly in poor risk patients and may be done with local anaesthesia.

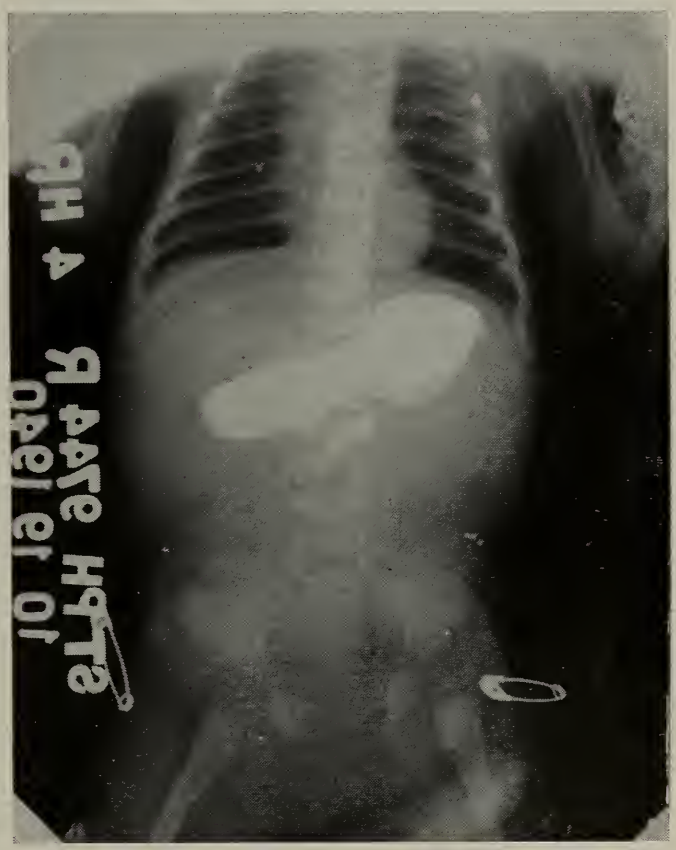

Fig. 9—Typical x-ray appearance of congenital hypertrophic pyloric stenosis.

It is desirable in all cases of duodenal ulcer to remove the ulcer particularly when the operation is indicated for penetration into the pancreas and for hemorrhage, but it is not infrequently very difficult and hazardous to carry this out. In such cases it is satisfactory to divide the stomach high up and proximal to the pylorus. The remaining pyloric funnel should then be denuded of mucous membrane and the distal stomach closed. The ulcer almost invariably heals when thus protected; if it does not a

secondary operation is safer than the primary procedure in these difficult cases.

There is little or no place for the various plastic operations about the pylorus.

Where the benign ulcer of the stomach is near the pylorus and the duodenum is mobile direct anastomosis between the stomach and duodenum is a most satisfactory procedure (Billroth I). The recurrent stomal or jejunal ulcer is more difficult to handle. Some of them will heal if the patient will follow a careful medical regime, but the majority must be operated upon. The condition is much more complicated when the ulceration breaks into the colon. These cases all have a new stoma with the pyloric

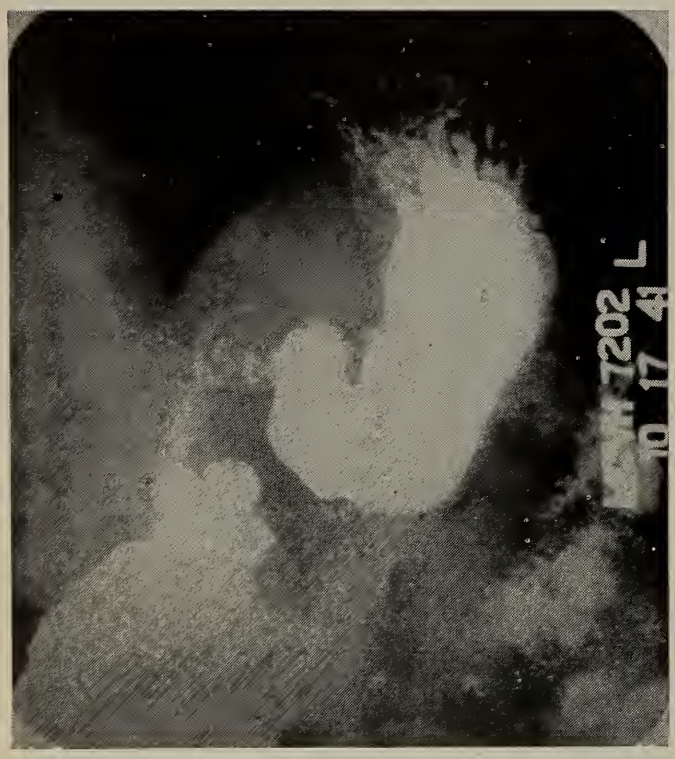

Fig. 10—This deformity at the pylorus was due to marked hypertrophy of the mucous membrane.

mechanism out of action so a complete severance of the vagus nerves may give good results. Unfortunately there are recurrences after this operation and if the section of the nerves has been complete further resection of the stomach must be done.

Specific ulceration of the stomach and duodenum is a rare condition. We have had at the Medical College of Virginia Hospitals about 15 cases of syphilis of the stomach. This lesion is tertiary and resembles a gumma (Fig. 5 and 6). There is marked infiltration of the wall of the stomach with annular ulceration. The lesion is usually located at or near the

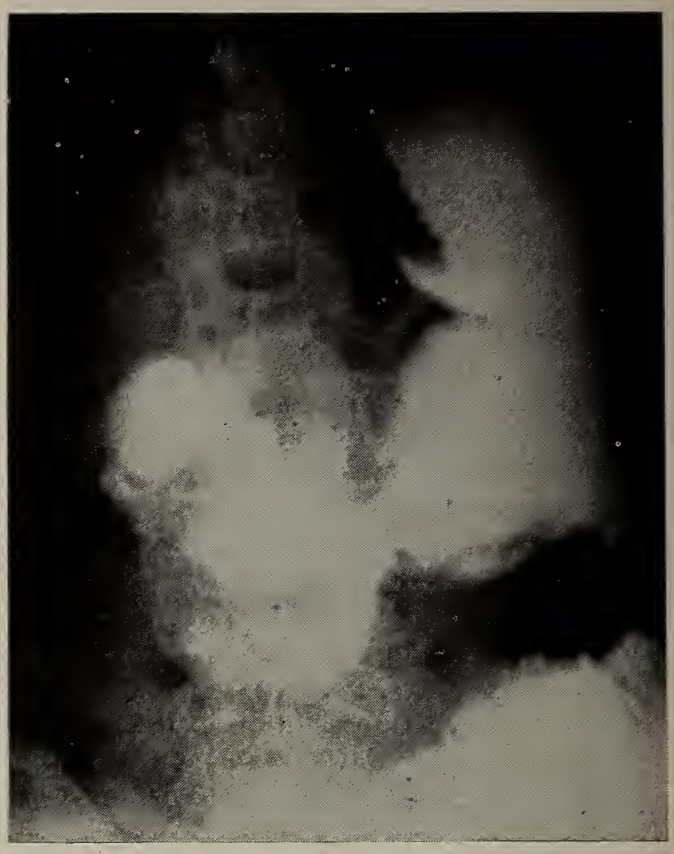

Fig. 11—The negative shadow in the cardiac portion was due to a leiomyoma.

pylorus and cannot be distinguished from cancer by x-ray examination. A smooth contour of the lesion with a funnel appearance is suggestive (Figure 7). Even when the stomach is explored it may be very difficult to be certain of the diagnosis because there is an inflammatory tumor and usually enlargement of the regional lymph nodes. The mass is not so hard as a neoplasm and the glands are softer. These chronic infiltrating and ulcerating lesions will rarely heal on specific medical therapy and should be treated

Fig. 12—The negative shadow in the mid-stomach was due to a papillary adenoma on the posterior wall.

Fig. 13—The gross specimen of the case shown in Figure 12.

by resection of the involved stomach. The finding of spirochetes in fixed tissues is unreliable. Harris and Morgan have demonstrated them by animal injection of fresh tissue. Microscopically the presence of peri and endophlebitis with destruction of the wall except for elastic tissue is a constant finding.

Ulcerations of tuberculous lesions and other chronic infections are exceedingly rare but when resistant to treatment like a chronic peptic ulcer they must be resected.

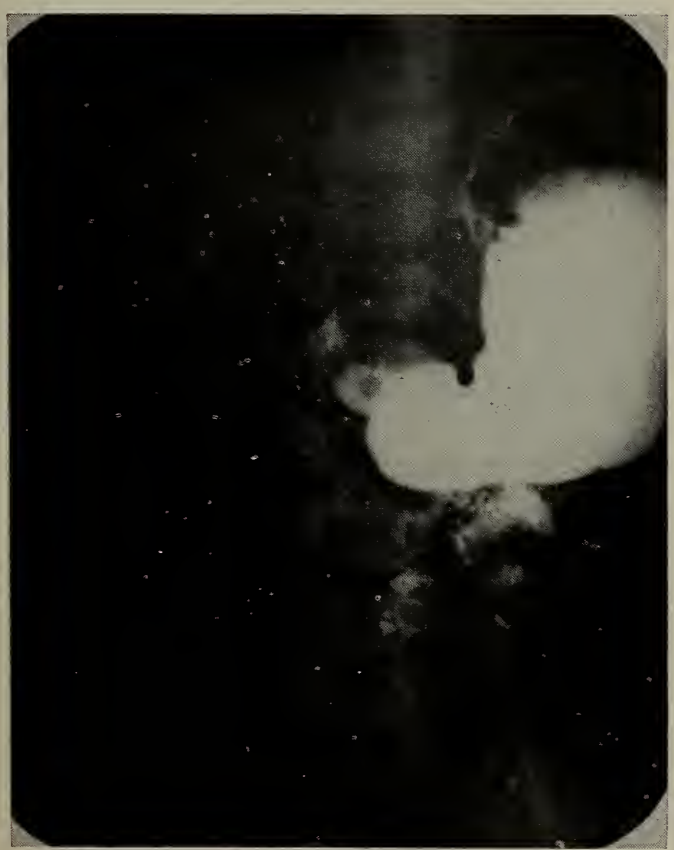

Fig. 14—The negative shadow in the pylorus was due to a submucous adenoma in a child of 4½ years.

Acute ulceration may result from ingestion of large amounts of alcohol and certain poisons. These ulcerations may become chronic and then must be treated as any chronic nonspecific ulcer. One case of zinc chloride poisoning in our hospital resulted in such complete sclerosis of the stomach that total gastrectomy was necessary for relief (Fig. 8). In this case the esophagus escaped serious injury.

Hypertrophic lesions involve both the stomach wall and its mucous membrane. The most frequent one is the congenital hypertrophic pyloric stenosis seen

Fig. 15—Diverticulum of the stomach near the esophagus treated by invagination and suture of the neck.

not infrequently in early infancy (Fig. 9). This is very satisfactorily corrected by the Rammstedt operation of longitudinal division of the pyloric muscles. A similar condition is rarely seen in adults and in these larger patients it may be necessary to remove a segment of the muscle, establish a gastroenterostomy or do a resection.

Hypertrophy of the mucous membrane of the stomach is frequently observed during x-ray examinations of the stomach. It is usually of no clinical significance but it can result in large folds of mucous membrane which may bleed severely, interfere with emptying of the stomach or actually prolapse into

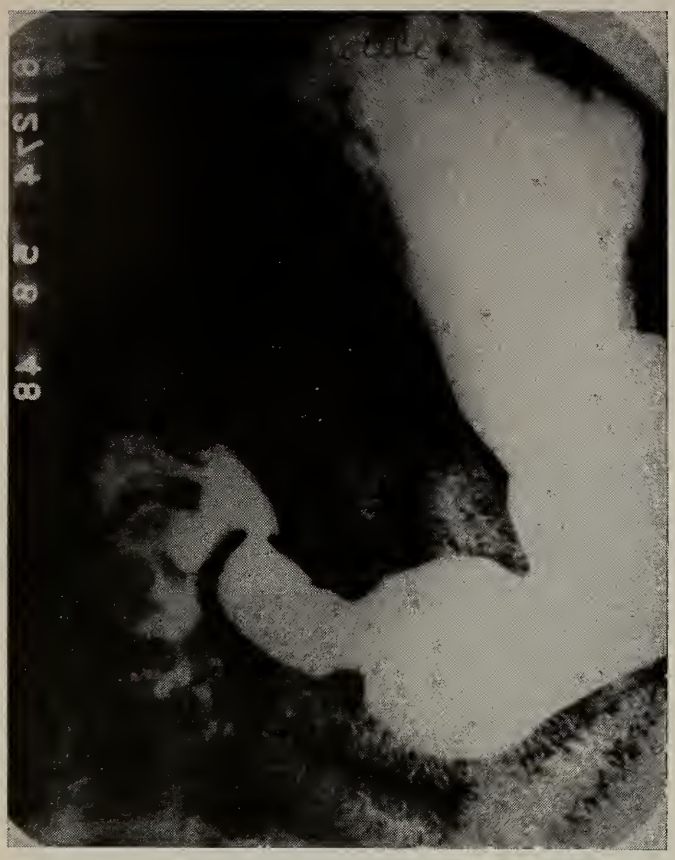

Fig. 16—Diverticulum of second part of the duodenum. This patient had repeated attacks of pain and fever probably due to blocking of the pancreatic duct. Complete relief followed removal of the diverticulum.

the duodenum. It is often difficult to know whether or not operation on the stomach will be necessary. If exploration is done, localized hypertrophy and prolapse may be corrected by local excision of the mucous membrane after gastrotomy but when the hypertrophy is diffuse resection may be necessary (Fig. 10).

Benign tumors of the stomach are rare. They may arise from the wall of the stomach or the mucous membrane. Leiomyoma is the most frequent tumor but pure fibromas and lipomas have been reported. The leiomyoma usually grows into the stomach and, because its blood supply is poor, ulceration on its surface with resulting severe hemorrhage is frequent. The diagnosis is made by x-ray examination which reveals a defect in the barium filled stomach (Fig. 11). These tumors may be almost pedunculated and removable locally, more often they are sufficiently diffuse to require resection.

The epithelial tumors arise in the mucous membrane and may be either pedunculated (Fig. 12 and 13) or buried in the wall of the stomach (Fig. 14). When small these lesions may be removed locally but like the other benign tumors sometimes make resection necessary.

Another difficult problem in dealing with benign tumors is the accurate diagnosis between benign and malignant lesions. There are occasional borderline cases in both the epithelial and muscle tumors, and where doubt exists after thorough study, wide resection should be done.

Diverticula occur throughout the entire digestive tract. The majority of them are harmless and require no treatment. In the stomach the diverticulum may reach considerable size but if the opening is small retention may result in ulceration with symptoms similar to peptic ulceration. Such lesions should be removed (Fig. 15). At operation the diverticulum may be so hidden in the wall of the stomach that it is very difficult to find. When located in the cardiac end of the stomach exposure may be difficult. The diverticulum should be removed but occasionally it is treated by invagination and suture of its neck.

Diverticula of the duodenum are found not infrequently on gastrointestinal studies. The majority of them are considered of no clinical significance, some however retain food for long periods and cause pain, while some cause intermittent obstruction of the pancreatic ducts with symptoms of varying severity (Fig. 16).

Diverticula causing persistent symptoms should be removed. At operation it may be difficult to find the sac, it is usually located in the head of the pancreas. Mahorner advises dilatation of the duodenum with air injected through a small needle. This fills the diverticulum and facilitates its removal. These diverticula may occur in any portion of the duodenum, the most frequent site is on the convex side of the second portion. The greatest hazard in the operative removal is damage to the pancreatic duct with discharge of pancreatic juice into the peritoneal cavity. Such an occurrence is probably responsible for most of the fatalities following this operation.

DISCUSSION

When one is dealing with a malignant lesion of the stomach or duodenum, radical removal of the lesion and its paths of spread is clearly indicated. Benign lesions, however, may often be on the borderline where the decision for or against surgical interference is very difficult to make. Formerly the operative risk was quite considerable and was not

infrequently the deciding factor against operation. This has now been changed to an assured low mortality rate with the exception perhaps of removal of duodenal diverticula. The main question to be decided now is that of function—will the stomach and duodenum deformed by the contemplated surgical procedure function better than they do handicapped by benign ulceration, hypertrophy or diverticula? In most cases such as those of pyloric stenosis from duodenal ulcer, the chronic unhealed gastric ulcer and all of the benign tumors, the answer in favor of operation is easy. There is, however, a considerable number of duodenal ulcers resistant to treatment, of diverticula, and of hypertrophies which require the careful thought and best judgment of the physician and surgeon. If such careful selection of cases for operation is exercised, the results will give great satisfaction to both patient and physician.

Summary

The most frequently encountered benign lesions of the stomach and duodenum with examples of typical cases have been presented. The necessity for care in selection of cases for operation has been emphasized and the proper operative procedure to correct each lesion has been indicated.

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Cortical Steroids in Treatment of Cancer

Evidence gained in a study of far advanced cancer patients indicates that treatment with Acth and cortisone is helpful in reducing the pain and other complications of the disease but does not materially alter the natural course of the disease.

Drs. Samuel G. Taylor, III, John P. Ayer and Roger S. Morris, Jr., reported on their study of 26 advanced cancer patients in the November 25 *J.A.M.A.* All three doctors are associated with the Presbyterian Hospital, Chicago.

The report says in part: "The clinical response of most patients was reduction in fever, if present, increased appetite and improved strength and well-being. At times the effects were dramatic and appeared usually within 48 hours after Acth therapy and within four to six days after starting treatment with cortisone.

"Patients hitherto bedridden, vomiting and requiring heavy doses of narcotics were able to become ambulatory, reduce or stop their reliance on narcotics, and eat astonishing meals."

According to the report, however, the "improved" condition of the patients was only temporary. The natural course of the disease continued—12 of the patients already have died. In addition, the hormone treatment produced disturbing side effects. They explain "We have frequently been faced with the problem whether complications produced by continued therapy of relapse from omission caused more distress to the patient."

Some of the side effects produced by Acth and cortisone which, according to the doctors, may make "repeated or prolonged therapy ill advised" were chemical changes in the body, excess sugar in the blood, mental and personality changes, sexual and skin disturbances, development of moon-shaped faces and unnatural fat deposits in different parts of the body.

TRENDS IN THE MANAGEMENT OF CEREBRAL PALSY

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Increased interest in the rehabilitation of the chronically disabled is influencing attitudes toward the cerebral palsied. The experiences of the war demonstrated that the lot of the severely handicapped could be improved to a rewarding degree if attention was directed at the utilization of residual abilities for the attainment of practical self-help objectives. Patients suffering from conditions considered previously as hopeless sometimes responded to a remarkable degree. Thus the simple transfer of interest from the disability itself to ways and means of expediting the evolution of compensatory adaptations became a therapeutic advance which survived the war and has since found a place in civilian medical practice.[1]

A second reason for the growth of interest in the problems of the cerebral palsied is the drift toward assumption by the community group of health and welfare responsibilities which were considered previously the prerogative of the individual or his family. This trend has been abetted to a significant degree by the organization of increasing numbers of societies, clubs, and foundations dedicated to research and education with special emphasis on a particular disease, or engaged in providing direct services to those disabled by that disease. Wide dissemination of information about methods of treatment by these agencies has subjected physicians to the pressure of demands for forms of therapy not yet generally available. Having supported the "cause", the public believes itself entitled to the benefits accruing from an ideal treatment program without appreciating fully the extent to which the physician's contribution may be conditioned by factors over which he exercises no control. This is nowhere more evident than in the present day management of cerebral palsy. The primary purpose of this paper, therefore, is to assess the scope of the cerebral palsy problem today in the Commonwealth of Virginia. The subject is a timely one. The pressure of public interest has already led to the enactment of legislation in several states to increase facilities for the medical care and education of children suffering from this chronically disabling disease.

The incidence of cerebral palsy is conceded to approximate the figure originally proposed by Phelps.[2] He found the annual increment to be seven cases per 100,000 population.[3] Of these, one dies before attaining the age of six. Thus the constant case load is in the neighborhood of 126 cerebral palsied under the age of 21 per 100,000 population. Where case finding studies have been conducted, the prediction value has, in general, been approximated. This places the figure at 3,780 for Virginia and 300 for the City of Richmond. Of the six per 100,000 population born annually with cerebral palsy and surviving, two are mental defectives and present primarily a custodial problem. Four are mentally normal. Of these, one is so mildly affected as to require no special rehabilitation facilities and one is so severely involved as to be homebound. This leaves 33 per cent classifiable as mentally normal and so disabled as to require specialized educational and treatment facilities.

Much is being learned about the etiology of cerebral palsy by careful inquiry into the gestational, birth, neonatal and developmental history. Early diagnosis and prompt treatment has demonstrated that more can be done for the cerebral palsied than previously thought and generally appreciated. Roughly 80 per cent of the cerebral palsied show involvement of the pyramidal and extra-pyramidal systems or lesions of the basal ganglia. A considerable proportion of the remainder show the ataxic manifestations of cerebellar or labyrinthine dysfunction. Lesions thought to be associated with diffuse petechial hemorrhages are accompanied most commonly by rigidity which may be intermittent in character. A few cerebral palsied present tremor as the primary symptom. The incidence of complicating ocular, auditory and speech defects is high, as is also that of epileptiform seizures. If functional abnormalities of the motor system remain untreated, orthopedic deformities occur secondarily. The multiplicity of the handicaps presented by the cerebral palsied thus makes it difficult to evaluate their men-

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tal status. Retardation is virtually inevitable in the average patient because of the magnitude of the barriers to normal developmental experience. Valid and reliable testing is affected by so many uncontrollable variables that prognosis is best based on the total response to intensive education and training.

The first step in the organization of a State program for the cerebral palsied is case finding and registration. At the present there is no reliable information as to the number of cerebral palsied children resident in the Commonwealth of Virginia. Doubtless many have been hidden from view here as elsewhere, considered to be suffering from an irremedial condition and forgotten. Case finding is, of course, without real value unless conducted in conjunction with a system of regional screening clinics. Because of the complexity of the problems involved, the view of those best informed is that optimal management is attained by the team approach, once the cerebral palsied have been identified. Thus the current trend is toward the establishment of diagnostic centers staffed to provide the consultation services of all specialties required. Leadership in the establishment of such centers is being assumed primarily by pediatricians or orthopedists.

Once the status of the patient has been evaluated, a long-term treatment program can be outlined. At the outset, general health and seizure control take precedence over all other considerations. Adequate bracing is probably second in importance. Bracing has two functions in the management of the cerebral palsied; first, the prevention of deformities, and, second, selective control of movement patterns during the period of functional training. Since the patient with cerebral palsy may suffer no diminution in strength the type of brace required differs radically from that used to give support to the weakened musculature of the extremities of those with lower motor neuron disease or peripheral nerve lesions. Indeed, an athetotic patient with a high degree of tension may move his extremities with a power equal to that of a trained athlete. Thus the first serious problem to be met in the establishment of a diagnostic and treatment unit, centers on the provision of facilities for adequate bracing.

Many movement patterns spontaneously acquired by the normal child must be taught deliberately to the cerebral palsied. A classical example is the reciprocal use of the limbs in preparation for locomotion. Involuntary movements, inequalities in the power of muscle groups activating the joints of the weight bearing limbs, hyperactive stretch reflexes, vertigo, nystagmus, defects in depth perception, and a diminution in kinesthetic awareness affect balance, the precision of movement, or both. Most of the resulting dysfunctions are amenable to correction. The degree to which functional capacities may be made to approximate normal varies with the extent and location of the lesion, and the quality of the rehabilitation program. Many simple training devices suitable for home use have been developed, largely through the efforts of Phelps and his associates. These have been designed first and foremost to permit the otherwise recumbent patient to sit and stand, and, secondly, to enlarge the base of support, lower the center of gravity, and increase the margins of static security sufficiently to permit locomotion. When functional training is combined with adequate bracing and the mastery of feeding and dressing skills, even the severely disabled may be given a measure of independence usually justifying the time and effort required. The less involved may be rendered self-sufficient, especially if speech is minimally affected or the hands are good enough to permit mastery of some mode of communication, either through writing or typing.

The experience of recent years indicates that optimal results are obtained when a progressive program of physical training is integrated with an appropriately modified program of education, including speech therapy. One without the other is not only less effective than their judicious combination, but may produce either an educated individual incapable of putting his knowledge to self-sustaining use because of grossly disabling physical limitations, or a disciplined neuromuscular system activated by a mind too deficient in its training and experience to permit vocational assimilation.

The ideal State program is one in which the average patient may be referred back to his home community for treatment after special study in a diagnostic center. Unless the necessary personnel and facilities are available on the community level the diagnostic clinic is of little more than academic value. Indeed, the planning of an unobtainable treatment program may do more harm than good. Thus the organization of a diagnostic center must

be integrated with the concurrent development of treatment outlets accessible to the patient.

The view that every disabled child of normal mentality is entitled to an education is leading to the establishment of State and private residential schools for the severely disabled, and to the segregation of the ambulant crippled child in urban or regional orthopedic schools or special classrooms. Within the last few years an increasing number of parent groups and community agencies have organized privately supported nursery schools so that the severely handicapped might be given the benefit of the earliest feasible socialization, physical, occupational and speech therapy. A critical shortage of specially trained personnel has made it difficult to establish the necessary treatment centers even where funds have been abundantly available. Carefully taught home treatment programs coupled with homebound education provide a substitute to meet the needs of communities in which modern physical medicine and rehabilitation facilities are as yet unavailable. To be effective these must either be supervised by itinerant field workers trained in the techniques of treating the cerebral palsied, or the patient must be returned to field clinics or the outpatient clinic of the diagnostic center sufficiently often to permit adequate follow-up evaluation and guidance.

The nature of program for the cerebral palsied now developing in various parts of the country differs with the exigencies of regional and local limitations. Private agencies like the National Society for Crippled Children and Handicapped Adults and its affiliated State Societies have made a notable contribution by supporting the post-graduate specialty training of physicians and their technical assistants, providing direct services to the disabled in demonstration centers, and by sponsoring vigorous programs of both lay and professional education in the form of publications, scientific exhibits, symposia and lectures. However, it is difficult to see how stable programs of the complexity required for the adequate management of cerebral palsy can be established under the egis of other than tax supported agencies. Programs now in force in California and New Jersey illustrate what can be done. In the former,[4] field clinics, cerebral palsy diagnostic and treatment centers, residence schools for cerebral palsied children, and special classes in the public schools operate under the State Departments of Education and Public Health. In New Jersey,[5] Cerebral Palsy is one of seven Divisions of the State Crippled Children's Commission, being surpassed in size only by the Nursing Division.

Viewing the situation realistically, it would seem that the most rational starting point to improved services for the cerebral palsied in the Commonwealth of Virginia might be primary referral of suspected cases to the existent orthopedic clinics of the Crippled Children's Bureau of the Virginia State Department of Health for initial screening, and utilization of the personnel of the Bureau for the supervision of home treatment programs. The cooperation of the Department of Education could then be elicited to provide special education or vocational rehabilitation as indicated. Facilities for the latter (Woodrow Wilson Rehabilitation Center) are among the best available in the country. Seizure control problems could be referred to the Anti-Convulsive Clinic of the University of Virginia Hospital, an activity supported by the Virginia Society for Crippled Children and Handicapped Adults since 1944. This was the first such Society in the country to interest itself in the plight of the epileptic. The Baruch Center of Physical Medicine and Rehabilitation of the Medical College of Virginia has a clinical research laboratory uniquely equipped for the evaluation of disabilities involving stance and locomotion, and for the physiological study of movement. Research of this type is urgently needed for the critical assessment of rehabilitation and training techniques based primarily on empirical experience. Thus, the not inconsiderable existent resources of the State, some of which are already distinguished in their own right, might well be united in the interests of improved services for those suffering from one of the most neglected and least understood of all chronic disabilities affecting mankind. The key to the initiation of rational planning is the interest and support of the family doctor and those specialists to whom cases are now being referred. Experience has shown that justifiable ends are attained best when the valued and able assistance of lay groups operates under the guidance of a sympathetic and well informed medical profession.

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Cortisone, Acth Found Helpful in Treating Serious Skin Disease.

Good results are reported by a group of doctors at Mount Sinai Hospital in New York who have used cortisone and ACTH to treat patients critically ill with acute disseminated lupus erythematosus, a serious disease beginning with a skin disorder and spreading to the heart, lungs, kidneys and other vital organs.

Writing in the October issue of *Archives of Internal Medicine,* Drs. Louis J. Soffer, Marvin F. Levitt and George Baehr caution, however, that "although these agents are capable of inducing clinical remissions they do not affect a cure of the underlying disease process."

Of the 14 patients treated with the hormones, 11 responded to the extent that the acute evidence of the disease promptly subsided and the patient could move about more comfortably. However, the diseased cells, the anemia, the abnormal kidney findings and other characteristics of the disease persisted.

The report continues: "The treatment of acute disseminated lupus with cortisone or ACTH may be complicated by frequent untoward side effects. However, with careful clinical observation these effects may be minimized and corrected and therapy continued.

"The exacerbations [increase in severity] which follow attempts to discontinue therapy indicate that long-range or even permanent treatment may be necessary to control the disease."

New Books.

Below are given names of some of the newer books received at the Tompkins-McCaw Library of the Medical College of Virginia. These are available to our readers under usual library rules.

American Medical Association—Handbook of physical medicine and rehabilitation.
Berman—Principles and practice of surgery.
Bridge—Epilepsy and convulsive disorders of children.
Cobb—Foundations of neuropsychiatry. 4th revised edition.
Crew—Genetics in relation to clinical medicine.
Epstein—Regional dermatologic diagnosis.
Freeman—Theory and practice of psychological testing.
Hecht—Basic principles of clinical electrocardiography.
Hirsch—Sexual fear.
Iowa state medical society—One hundred years of Iowa medicine.
Jones—Basic sociological principles.
Maingot—Techniques in British surgery.
Novak—Gynecological and obstetrical pathology. 2nd edition.
Pratt—Surgical management of vascular diseases.
Progress in neurology and psychiatry. Vol. 5, 1950.
Sperry—The ethical basis of medical practice.
Ungerleider and Gubner—Roentgenology of the heart and great vessels.
Wilkins—Diagnosis and treatment of endocrine disorders in childhood and adolescence.

LIABILITY OF PHYSICIAN FOR STERILIZATION IN VIRGINIA

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Salpingectomy and vasectomy are relatively new and infrequently used procedures. Consequently, a physician's rights and obligations in connection with them have not been clearly defined. They have been the cause of very few legal decisions.

Justice Holmes once defined law as a prediction of what courts will do in fact. This definition has an appeal to the layman and even to the practicing lawyer, who are primarily interested in what can and cannot be done under existing legal rules. Prediction of what courts will do, however, is a hazardous pastime and this is especially true when there are few legal precedents to serve as guides and when a particular problem is impregnated with diverse social, ethical and religious beliefs. For the courts are responsive to the shifting currents of public opinion to which they give the vagrant label of "public policy." For these reasons, no definite and precise answers can be given to all the legal questions that are likely to arise in connection with a vasectomy or salpingectomy operation.

Sterilization may be sought for one of three general purposes: (1) eugenic; (2) therapeutic; and (3) contraceptive.

EUGENIC STERILIZATION

The Virginia statutes provide for the sterilization of inmates of certain named institutions who are found to be "insane, idiotic, imbecile, feeble-minded or epileptic, and by the laws of heredity . . . the probable potential parents of socially inadequate offspring." (Va. Code of 1942, secs. 1095h-1095m.) The rights of the patient are carefully considered and safeguarded by rather elaborate procedural provisions. The sterilization proceedings are initiated by the superintendent of the institution who first presents to the special board of directors of his hospital a petition stating the facts of the case and the grounds for his opinion that a sterilization is warranted. A copy of the petition must be served upon the inmate together with a notice of hearing. Copies must also be served upon the legal guardian of the inmate and upon his parents, if he is a minor. At the hearing before the board the inmate must be given an opportunity to be present and to be represented by counsel. The order of the board denying the petition or ordering sterilization is appealable to the circuit court and from it to the supreme court of appeals.

Before applying this statute the heads of the various Virginia institutions concerned wanted to be assured of its constitutionality. A test case, Buck v. Bell 274 U.S. 200 (1927), was accordingly carried through the state courts and eventually to the Supreme Court of the United States. The constitutionality of the law was upheld, Justice Holmes making the famous observation that the "principle that sustains compulsory vaccination is broad enough to cover cutting the Fallopian tubes. . . . Three generations of imbeciles are enough." In the course of its opinion, the court emphasized the procedural safeguards protecting the inmate that are provided in the statute. For that reason, scrupulous compliance with the statute would seem to be necessary.

A further provision of the sterilization statute is of particular interest to physicians. Section 1095L is as follows:

> "Neither any of said superintendents nor any other person legally participating in the execution of the provisions of this act shall be liable either civilly or criminally on account of said participation."

Although this section has not been construed by a court there appears to be no reason why the courts will not give it full effect and immunize from civil and criminal liability any physician performing an operation under the statute.

THERAPEUTIC STERILIZATION

At least four states (Connecticut, Kansas, Montana, and Utah) have expressly legislated against private sterilizations but even in those states no penalty is imposed when the operation results from "medical necessity." Even abortion, in Virginia and elsewhere, is legal to save life. There would seem to be no doubt as to the legality of a sterilization for the protection of the patient's own health. How-

ever, one section in the Virginia statute dealing with eugenic sterilizations gives reason for pause. It is section 1095m:

"Nothing in this act shall be construed so as to prevent the medical or surgical treatment for sound therapeutic reasons of any person in this State, by a physician or surgeon licensed by this State, which treatment may incidentally involve the nullification or destruction of the reproductive functions."

This section has not been construed by the Virginia courts nor have similar provisions in the statutes of other states being subjected to judicial scrutiny. It seems to make it clear that sterilization "incidental" to general therapeutic treatment is not prohibited. But why use the word "incidentally" unless its opposite—"primarily"—be deemed unlawful? And when would sterilization be considered as "incidental" to other treatment and when would it be considered as the "primary" treatment? Many court decisions have turned on distinctions less clear-cut and substantial. A possible interpretation of this section is advanced in the frequently cited article by Miller and Dean in volume 16 of the *American Bar Association Journal* entitled "Liability of Physicians for Sterilization Operations." At page 160 the authors analyze provisions of this type as follows:

"It will be noted that this type of provision does not make such operation a criminal offense, and no punishment is provided. It is probably at most a provision designed to avoid civil liability except where the operation is non-therapeutic, or possibly even where the physician is unlicensed, or the operation 'primarily' (as distinguished from 'incidentally') involves the nullification or destruction of the reproductive functions. If the operation did contain any of the above impliedly prohibited circumstances, an attorney might well hesitate to advise a physician that he might safely perform the operation in a state which had such a statute."

Suppose, that instead of performing a salpingectomy upon the wife, for whom further child-bearing would be dangerous, the physician performs a vasectomy upon the husband. This point was considered by the Minnesota Supreme Court in the only case that has been found involving sterilization operations. (Christensen v. Thornby, 192 Minn.123, 255 N.W.620.) There a physician performed a vasectomy upon the plaintiff to prevent his wife from endangering her health by bearing more children. The operation was claimed to have been unsuccessful since the wife thereafter conceived and gave birth to a child. The court gave considerable attention to the question whether the contract was void as against public policy.

"We are not here confronted with the question of public policy as applied to sterilization where no medical necessity is involved. Aside from the statutes in the few states that have prohibited it, we find no judicial or legislative announcement of public policy against the practice of sterilization. Certainly, even in those states with the statutory prohibition, the exception of medical necessity would justify a physician in performing the operation here alleged. Plaintiff was married and presumably would remain married to his present wife, who had been competently advised of the danger of further pregnancy. The operation of sterilization upon a man is a simple one, accompanied by very slight hazard, whereas that upon a woman is more serious and requires a greater degree of skill on the part of the physician. It entails hospitalization. It is frequently performed upon women who habitually miscarry or abort. So far as progeny is concerned, the results to this married couple would be the same were effective sterilization performed upon either. Therefore, in our opinion, it was entirely justifiable for them to take the simpler and less dangerous alternative and have the husband sterilized. Such an operation does not impair, but frequently improves, the health and vigor of the patient. Except for his inability to have children, he is in every respect as capable physically and mentally as before. It does not render the patient impotent or unable 'to fight for the king,' as was the case in mayhem or maiming . . . We therefore hold that under the circumstances of this case the contract to perform sterilization was not void as against public policy nor was the performance of the operation illegal on that account."

The court's statement that the results to the married couple would be the same whether the sterilization were performed upon the husband or the wife is perhaps too sweeping a generalization. The husband might remarry and desire to sire children. The point of this objection is blunted, however, by the fact that in the case of a vasectomy fertility can, in many cases, be re-established by operative correction of the condition. Thomas O'Connor (Jl. *Am.Med.Ass'n.*,136,162, 1948) collects 420 cases in which surgical re-establishment of fertility in vasectomized males had been attempted and found 38 per cent successful.

Contraceptive Sterilization

The legality of sterilization for contraceptive purposes is more doubtful. Here the vital issue is the attitude of the particular state toward birth control and contraceptive practices generally. The general

arguments of public policy against birth control, based upon social, political and religious assumptions, apply with greater force because of the permanency of sterilization as a method of contraception. At least insofar as statutory pronouncements and judicial expressions are concerned, Virginia seems to take no firm stand against birth control as have, for example, Connecticut and Massachusetts. Virginia seems to regard birth control if not benignly at least passively. It is arguable, however, that section 1095L, absolving physicians from liability in performing a statutory sterilization, does, by implication, recognize liability for sterilizations not under the statute. At the time the Minnesota case was decided, however, a statute similar to section 1095L was on the books there, yet the court stated that there were no statutory prohibitions in Minnesota against sterilization. It might also be urged in Virginia that section 1095m in permitting therapeutic sterilizations precludes contraceptive sterilizations by implication. These are technical arguments and should receive short shrift by an enlightened court unless there are other more substantial grounds upon which to create liability.

If sterilization for contraceptive purposes should be disapproved by the courts, the disapproval will probably take the form either of a decision declaring it a criminal act or declaring that it is a tort, an act for which damages can be recovered by the person sterilized, his spouse, parents, or guardian. Insofar as criminal liability is concerned the nearest analogy is the crime of mayhem. Mayhem at common law was defined as "when one shall diminish the strength of another's body and weaken him thereby to get his own living and by that means the commonwealth is deprived of the use of one of her members." The idea was that the person maimed was "rendered less able to defend himself" or "to fight for the king." Castration was considered an act of mayhem because of its effect upon the entire physical character of the individual. Sterilization, on the other hand, does not render him less able to defend himself or to fight for the king and can hardly constitute mayhem if loss of physical capacity is the criterion. It, of course, might be argued that deprival of procreative powers is opposed to the interest of society in maintaining the birth rate. This point of view might have had some merit in the early days of English law when each added person was valued for defense against other nations. In a time of pressing population problems, procreative powers are less likely to be valued by society. The statutory definitions of mayhem are, however, much broader than the common law one. None of them specifically denounces sterilization. The Virginia mayhem statute (Va. Code of 1942, sec. 4402) defines mayhem as causing "bodily injury, with intent to maim, disfigure, disable, or kill." Not only is it doubtful that sterilization comes within this definition but, it should be noted, criminal intent is an important element of the crime. A physician who in good faith performs a sterilization could reasonably argue that the statute is inapplicable since he had no criminal intent to "maim, disfigure, disable, or kill." If it should be held that sterilization constitutes the crime of mayhem, then consent by the person sterilized would not be a defense for the reason that consent on the part of the person maimed did not prevent criminal liability at common law and it probably would not under the Virginia statute. Physicians, however, can be reassured by the fact that no case has yet been reported in the United States or England holding sterilization to constitute mayhem.

If not mayhem, sterilization might be considered a criminal assault. Consent, however, is a good defense to a prosecution for this crime.

As far as civil liability for damages is concerned, consent should be a complete shield against liability even though the consent would not relieve from criminal liability. This aspect of the problem is well summarized by Miller and Dean in their article referred to above:

> "In those states in which there is no penal provision prohibiting a sterilization operation by the modern methods, the general rule of tort law would seem to apply and the consent of the party to submit to the operation should be a complete shield against civil liability on the part of the operating physician, provided the operation was performed without negligence."

The authors found exceptions to this general view in special classes of cases:

1. Where the patient is rendered sterile by unauthorized liberties taken by the physician.
2. Where the patient is legally incapable of giving a binding legal consent because of mental incapacity or minority.

The latter exception would obviously be inapplicable where the sterilization is performed under a statutory procedure such as the Virginia eugenic law.

Conclusion

It should be emphasized again that the law on this subject is uncertain and that there are very few cases throwing any light on the matter. For that reason, conclusions must be based on analogy, always a rather dangerous technique of prediction. The matter will depend largely upon the attitude which the people of the state and the courts have in regard to birth control. It is ultimately a question of social and ethical values which in turn dictate the public policy of the state. In the light of this word of caution, certain conclusions may be asserted:

1. Sterilization under the Virginia statute dealing with inmates of named institutions is legal and a physician participating in the procedure is absolved from liability except in the case of negligence.

2. Therapeutic sterilization to safeguard the health of the person sterilized would probably be upheld. Certainly this would be true if the sterilization were "incidental" to the general treatment of the patient. Whether sterilization of the husband to protect the health of the wife would be supported is uncertain. The Minnesota decision would be persuasive only in Virginia and the courts of this state might or might not follow it.

3. Contraceptive sterilization probably would not be considered mayhem under the criminal statutes although a court that was determined to put an end to sterilizations could stretch the statute to include it.

4. A physician may protect himself from criminal liability—assuming sterilization is not mayhem—and from civil liability by the use of a properly drawn release or contract. Regardless of which one is sterilized both the husband and wife should be required to execute the release. If the patient is a minor or mentally incompetent a release should be obtained from the parents and the guardian.

Because of the doubt and uncertainty surrounding the whole problem, the Medical Society of Virginia might very well give consideration to the desirability of a statute to remove existing doubts. A properly drawn statute prescribing the circumstances under which therapeutic and contraceptive sterilization might be performed and affording adequate safeguards to the parties concerned would be helpful both to the physician and the patient.

Rare type of Cancer May Follow Nail Injury.

A rare type of cancer arising in the finger or toe nails is reported by a Peoria (Ill.) doctor in the September 2 *J.A.M.A.* Appearance of a sore between the cuticle and the nail is a distinguishing characteristic of this cancer, Dr. Lyle W. Russell says. Symptoms such as swelling and moderate pain easily may lead to delayed recognition of the tumor and confusion with other conditions, he points out.

The cancer may appear as a small, yellowish crater which fails to heal and if neglected may invade the bone, according to the author. Amputation of the finger or toe is the recommended treatment and the outlook for cure usually is good unless spread of the cancer to another part of the body has occurred prior to the surgery.

Injury appears to be a possible inciting cause in the formation of this type of cancer, Dr. Russell says. In 11 of 20 cases reported, a deep puncture wound between the nail and nail bed or other injury to this area preceded the diagnosis of cancer by six months to 18 years.

STAPHYLOCOCCUS SEPTICEMIA WITH MYOCARDIAL ABSCESSES—

A Case Report*

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The literature concerning myocardial abscesses is meager. There are only scattered case reports. Weiss and Wilkins[1] maintained that in most instances myocardial abscesses were metastatic manifestations of an overwhelming sepsis and of more theoretical than clinical significance. From a total of 31 cases of myocardial abscesses found in a review of the autopsy reports of the Boston City Hospital, Department of Pathology, they had bacteriological data available on 26 as follows:

Staph. Aureus	20
Pneumococci	2
Strep. Viridans	2
Strep. Pyogenes	1
Meningococcus	1

Two of their cases ruptured and were reported in some detail. Only seven other cases of rupture of myocardial abscesses were found in the literature.

In a general review of myocarditis in 1941[2], Saphir stated that though reports of abscesses in the myocardium are unusual, there is little doubt that they occur quite often; that they are naturally expected in all cases of pyemia, and are also frequently found in acute and subacute bacterial endocarditis. Of Saphir's 240 cases of myocarditis, 32 had abscesses. Pyemia was present and the abscesses were not related to any form of endocarditis.

Because of the paucity of case reports and because of incidental bacteriological findings of special interest, we report the following case of Staph. aureus septicemia in which a myocardial abscess was present at autopsy:

A 33 year old colored male was admitted to the McGuire Veterans Administration Hospital, Richmond, Virginia, on November 26, 1947, in a lethargic and confused state. The history of his illness as obtained from relatives and the referring physician was that he had been well until four days prior to admission when there was a sudden onset of chills, fever, pain in the left chest, and a non-productive cough. He was first seen by his local physician two days after the onset and two days prior to admission. Penicillin 50,000 U. every three hours was started

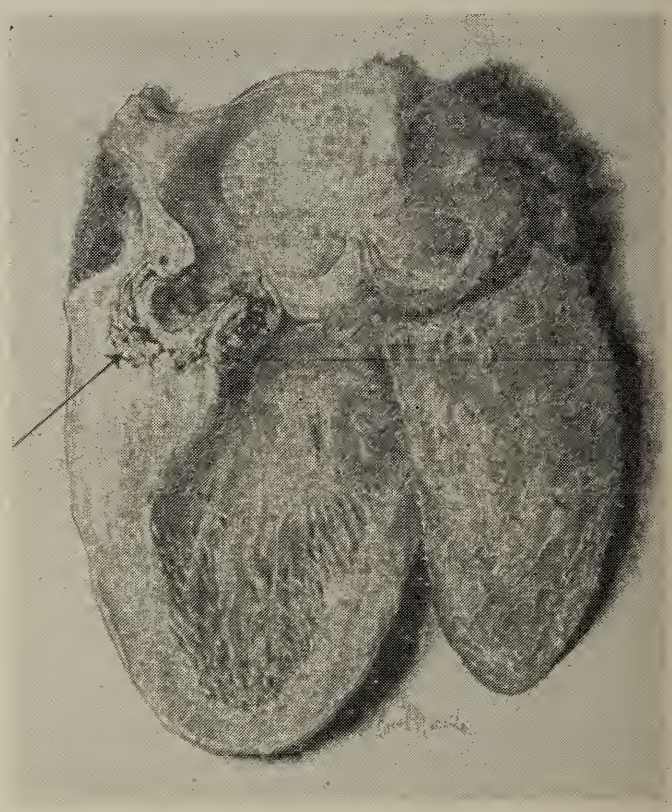

Fig. I. Illustration showing the abscess (arrow) and the adjacent thickened aortic cusp with vegetations on each surface. The pericardial surface shows the shaggy fibrinous appearance resulting from the pericarditis.

at that time. His temperature had remained elevated up to 104° and on the day prior to admission, he had developed a stiff neck and become confused and lethargic. He was then sent to the hospital.

No significant past or family history was obtained.

Physical examination on admission revealed a well developed, well nourished, acutely ill, moder-

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ately lethargic, confused, and disoriented colored male. Temperature 103°. Pulse 130. Respiration 30. Nuchal rigidity was marked and Kernig's sign was positive. There was moderate injection of the posterior pharyngeal wall. The lungs were clear and except for tachycardia, there was no abnormality of the heart. The abdomen was soft and the liver and spleen were not palpable. The neurological examination was negative except for the nuchal rigidity and Kernig's sign mentioned above.

Initial laboratory data revealed a hemoglobin of 13.8 gms., WBC 12,000, 91% neutrophils. The urine was acid with a specific gravity of 1.017, a trace of albumen, no sugar, and a few RBC-s, WBC-s, and hyaline casts present in the sediment. Spinal fluid findings at admission were: Cells 36 (28 polymorphoneuclear leukocytes, 8 lymphocytes) in a grossly clear fluid. Protein 45 mgm., sugar 95 mgm. A direct smear was negative. The spinal fluid Wassermann was negative and the gold curve was 0-0. A chest x-ray was suggestive of bronchiolitis. Agglutinations for typhoid, paratyphoid, brucella, tularemia, and the Weil-Felix reaction were negative. BUN 42 mgm. Total proteins 6.6 gms. Albumen 3.2 gms. Globulin 3.4 gms.

A diagnosis of meningitis was made and treatment was begun. Initially he was given 5 grams of sodium sulfadiazine intravenously and this was followed by 2 grams of oral sulfadiazine every four hours along with 2 grams of soda bicarbonate. Blood levels varied from 15 mgm. at the start to 8 mgm. at the time it was discontinued. Penicillin 50,000 units every three hours, as begun by his personal physician two days before admission, was continued. At the time of the initial lumbar puncture, 10,000 units of penicillin were injected intrathecally.

There was a constant temperature elevation of from 103°-104° (rectally) and the pulse rate ranged between 120-140/min. He remained stuporous. On November 28, the third hospital day, a petechial rash appeared in the conjunctivae, on the mucous membrane of the palate and pharynx, on the trunk, and on the extremities, and a pericardial friction rub was heard. An electrocardiogram revealed changes consistent with pericarditis, but by December 3, six days later, these changes were much less marked and on December 5 the EKG was normal. With the recognition of the pericarditis, the penicillin dosage was increased to 200,000 units every three hours. The fever, tachycardia, and stupor persisted, but the rash faded and had disappeared by the fourth day after its appearance.

On December 1, flatness to dullness was found over the left lower chest posteriorly with absent tactile fremitus and distant bronchial breathing. This area was tapped and 150 cc. of turbid orange fluid was obtained and penicillin, 100,000 units, was instilled. The left pleural space was subsequently tapped on three other occasions with the removal of 200 cc. yellow-orange turbid fluid and instillation of penicillin locally. He continued to run a downhill septic course. Repeated lumbar punctures were done and each time the fluid was under normal pressure but slightly cloudy with the cell count varying from 150-269 with 68%-87% lymphocytes. Penicillin, 10,000 units, was instilled at each tap.

There was no clinical improvement and when an alkalosis developed on the seventh hospital day as a result of the large dose of soda bicarbonate, the sulfadiazine and soda were discontinued. Penicillin was continued at 200,000 units every three hours and streptomycin .3 gms. every four hours was started on the chance that we were dealing with tularemia in the pre-agglutining phase. On this schedule a streptomycin blood level of 20 to 40 mcgm. per cc. was maintained. He was transfused repeatedly.

On the 8th hospital day (December 3), he developed peripheral edema, slight distention of the neck veins and rales were heard in both lungs, so he was digitalized. For the next two days, there was slight clinical improvement manifested by a moderate drop in temperature and some mental clearing. The nuchal rigidity had disappeared and there was definite exfoliation of the skin from the sites of the previous rash. On the 9th and 10th hospital days (December 4 and 5), he became progressively worse with a return of his fever to 104° and a rapid rise in pulse and respiratory rates. There was radiographic evidence of pericardial effusion although no clinical evidence of cardiac tamponade. A diagnostic pericardial paracentesis was done on the 10th hospital day (December 5) and 30 cc. of bloody fluid which did not clot was obtained.

In spite of all therapeutic measures, he became progressively worse and expired at 6:00 a.m. December 7, eleven days after admission.

At autopsy, the following diagnoses were made: Staph. aureus septicemia with acute bacterial endo-

carditis, acute pericarditis, myocardial abscesses, and septic infarctions of the brain, spleen, and kidneys. Also there was an interstitial, focal, acute pancreatitis and patchy bronchopneumonia.

The pericardial cavity was distended with 760 cc. of bloody fluid. The parietal and visceral surfaces of the pericardium presented the shaggy appearance of pericarditis. The heart weighed 475 grams and was normal in contour. The myocardium was firm and brownish red. The endocardium was smooth and glistening except for a small, pale, dull, grayish area 2 mm. in diameter on the tip of a papillary muscle in the left ventricle. Adjacent to this lesion and continuous with it, there was an extension into the wall of the left ventricle to form an indistinctly outlined yellowish brown patch of necrotic tissue about 1 cm. in diameter. From this abscess there were further extensions through the heart wall and into the epicardial fat and into the heart muscle between the aorta and the left atrium. The center of this area consisted of fairly thick grayish-pink, semiliquid material.

Microscopically the heart showed large areas of myocardial necrosis and infiltration by large numbers of small round cells and polymorphonuclear leukocytes with separation of muscle fibers.

In other sections of the myocardium, there were satellite micro-abscesses. The epicardium was destroyed and replaced by a thick layer of fibrin with inflammatory cells in the mesh and in the epicardial fat. Numerous bacterial colonies were scattered in the necrotic tissue and in the inflammatory exudate. A section of endocardium showed thickening with clusters of inflammatory cells on the surface. A section of the vegetation from the lower surface of the aortic cusp revealed piling up of necrotic fibrin mixed with degenerated polys and clumps of bacteria. The pericardium showed a deposit of fibrinous exudate on the surface. The exudate was undergoing organization manifested by capillary and fibroblastic proliferation.

Antibiotic sensitivity studies were particularly interesting in this case. Spinal fluid cultures were performed four times and all were negative. Fluid from the left pleural cavity was obtained on December 1 and 4. The culture on December 1 was negative; the December 4 specimen was positive for Staphylococcus aureus. Blood cultures were taken on four occasions, the initial one being on the day of admission. All were positive for Staphylococcus aureus. The pericardial fluid obtained on December 6 showed Staphylococcus aureus. At autopsy pericardial fluid and heart blood were obtained and showed Staphylococcus aureus. Detailed study of the organism from all eight isolations indicated that they were identical and could be identified as Staphylococcus aureus.

All eight isolations were studied for *in vitro* sensitivity to sodium sulfadiazine, sodium penicillin, and streptomycin. A serial dilution technique employing brain-heart infusion broth at pH 7.2 was employed with 24 hour incubation at 37°c.

All cultures were uniformly resistant to a concentration of 25 mgm. of sodium sulfadiazine per cc. of media and to 50 units of penicillin per cc. of media. The initial culture isolated from blood on November 28 was resistant to 3.1 mcg. of streptomycin per cc. of media and sensitive to 6.25 mcg. per cc. The isolates from blood on December 1, 4, and 5 were sensitive to 12.5 mcg. of streptomycin per cc. of media as was that obtained from the chest fluid on December 4. The isolates at autopsy from pericardial fluid and heart blood were resistant to 50 mcg. of streptomycin per cc. of media.

It can be seen that the organism was initially resistant to therapeutically obtainable levels of sulfadiazine and penicillin and, while questionably sensitive to streptomycin when this therapy was begun, resistance rapidly developed to a degree where therapeutic efficacy of the drug was unobtainable.

In looking back, it would seem fair to ask, "Why were not massive doses of the antibiotics used in treatment; e.g., 8 to 10 million units of penicillin daily by continuous drip, or 4 to 6 grams of streptomycin?". The answer is that on the first positive blood culture for Staphylococcus aureus, this organism was thought to be a contaminant and was not reported. Following this, there were several negative cultures of spinal fluid and chest fluid, and then again positive cultures from the blood, chest fluid, and pericardial fluid. The positive report arrived on the ward shortly after the patient's death, so we were completely in the dark as to the causative organism throughout the course of his illness, and in the latter part were thinking in terms of viruses and rickettsiae rather than pyogenic organisms.

In view of the autopsy findings of multiple metastatic foci throughout the body with the gross myo-

cardial abscess in the region of the involved aortic valve which was well on its way to perforation into the pericardium and the proven extreme resistance of the organism, it seems doubtful that any amount of any available antibiotic would have altered the outcome.

Summary

1. A case of Staphylococcus aureus pyemia is presented in which a gross abscess of the myocardium was demonstrated at autopsy.
2. The causative organism was found to have a high degree of resistance to both sulfadiazine and penicillin from the beginning and rapidly developed resistance to streptomycin so that the therapeutic efficacy of these drugs was negligible.

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Floral Eponym

Cinchona

Dona Francisca Henriquez de Rivera, Countess of Chinchon

IN 1663, Sebastiano Babo wrote that the wife of the Viceroy, the Count of Chinchon, had a severe attack of tertian fever. She was quickly cured by the bark of a native Peruvian tree. The bark was for that reason called the "Countess's Powder". This story was unquestioned until recently. It was also believed that the Countess of Chinchon introduced the remedy into Europe. In 1930, Miss I. A. Wright, on behalf of Sir Henry Wellcome, discovered the official diary of the Count of Chinchon for the period he served as Viceroy of Peru. This diary gives detailed accounts of the illnesses, not only of his family, but of all prominent people in Lima at the time. There is no evidence that the Countess had tertian fever. Furthermore, the Countess did not return to Spain and distribute the remedy on her lord's estates in the valley of the Tagus. She died on her way home and was buried at Carthagena, Colombia, January 14, 1641. For those who are interested in the unbelievable number of errors in the history of quinine, the account of A. W. Haggis (*Bull. Hist. Med.* 10:417 and 568, 1941) is revealing.

Cinchona is a genus of perhaps sixty of mostly Andean trees of the family Rubiaceae. C. officinalis, long thought to be the best source of quinine has been replaced by Javanese hybrids.

PROLAPSING GASTRIC MUCOSA*

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The paucity of reports of this condition in the literature would lead one to suspect that prolapse of the gastric mucosa through the pyloric ring producing different degrees of pyloric obstruction is quite rare. As far as we can ascertain, the first case was reported by Von Schneiden[1] in 1911. Eliason and Wright[2] reported one case in a discussion of benign tumors of the stomach in 1925. In 1948 Nygaard and Lewitan[3] summarized the cases reported up to that time and added seven of their own, bringing the total up to 42. Since then, Ferguson[4] has reported 23 cases, Cove and Curphy[5] have reported 22 cases, Wilson and Granger[6] have reported 25 cases, and one more case was reported by Moon and Speed.[7]

Recent writers on this subject, however, believe that this condition is much more prevalent than we realize and blame its apparent rareness on the fact that many of us are unfamiliar with it. That the lesion may easily be missed, even by a trained roentgenologist, was very clearly illustrated by Archer,[8] who reported that in an examination for the American Board of Radiology, when films of this condition were presented, only one candidate of the entire group examining these films diagnosed the lesion correctly. That was in 1939. It is likely that in 1950 the results would be much different. Even among those interested in the condition, however, the incidence of this disease varies, widely. Rees[9] found 4 cases in 300 examinations or an incidence of .13 per cent at the Reese Stealy Clinic and 2 cases in 2,550 examinations or an incidence of .08 per cent at the San Diego County Hospital. Scott[10] reports 14 cases in 1,346 examinations or an incidence of 1.04 per cent. Ferguson,[4] however, reports 23 cases in 297 examinations or an incidence of 7.7 per cent.

Etiology: Since the etiology is unknown, many theories have naturally been advanced and each author seems impelled to evolve one of his own. The inflammatory theory has been advanced by Eliason and Wright,[2] who believe that chronic irritation produces inflammation and hypertrophy. When the hypertrophy of the mucosa in the region of the pylorus becomes great enough, the large folds are pushed through the pyloric ring by peristaltic waves, thus producing the typical prolapse.

Rubin[12] believes that the inflammation itself produces an increased peristalsis which initiates the prolapse.

Rees[9] has stressed the role played by a narrowing of the pyloric aperture with a relative loss of muscular substance and the formation of a fibrous ring. He thinks that the narrowed aperture produces hyperperistalsis which in turn produces mucosal hypertrophy and later prolapse.

Scott[10] believes that the initial change is a loosening of the mucosa which is produced by stretching during normal gastric movements. He stresses the independent mobility of the mucosa and believes that the "common denominator in the theories of gastric prolapse" is a disturbance of gastric peristalsis.

Golden[11] is of the opinion that the initial mucosal hypertrophy is due to a gastritis.

In evaluating these theories it is important to emphasize a few fundamental facts. First of all, we know that gastric mucosal hypertrophy may be produced by a variety of causes, such as infection, chronic irritation, or hyperperistalsis. Secondly, peristalsis is an ever present propulsive force which can produce prolapse of hypertrophic mucosal folds as soon as these folds become sufficiently large. When prolapse occurs, one would expect the condition to be progressive; there would be partial strangulation or at least irritation of the prolapsed folds, which would produce edema and increased hypertrophy. Partial pyloric obstruction, produced by the prolapsed folds would naturally result in hyperperistalsis, thus producing increased hypertrophy and more complete obstruction. The fibrous narrowed pyloric ring described by Rees[9] could easily be a fibrous reaction in the submucosa to the constant irritation and trauma produced by the prolapsing folds.

*Read before the Seaboard Medical Association of Virginia and North Carolina, December 8, 1949.

Pathology: The pathologic picture in this condition consists of a redundancy of the mucosa of the pyloric end of the stomach with hypertrophy of the rugae. The mobility of the mucosa on the muscularis is greater than normal.

Microscopic examination of the mucosa shows hyperemia and diffuse extravasation of red blood cells.

Eliason and Wright[2] have described inflammation in the mucosa and Rubin[12] described a case in which the prolapsed mucosa had undergone malignant changes.

Symptoms and Physical Findings: Previous writers have not been able to determine any characteristic symptom or symptom complex for this condition and this has been the case in our series. There is no way to separate these patients clinically from those suffering from peptic ulcer and allied disorders. In our group of nine cases, all complained of indigestion or epigastric distress. Three complained of pain, two of nausea, three experienced vomiting and four gave a history of hematemesis.

The only physical finding we encountered was occasional mild to moderate epigastric tenderness. Cove and Curphy[5] have reported an inconstant, soft doughy, palpable mass in the epigastrium. They believe that this mass is palpable when the prolapse is present and disappears when the prolapsing mucosa falls back into the stomach. We have not encountered this finding.

Diagnosis: All are agreed that there is no symptom or combination of symptoms that will enable one to make the diagnosis from clinical observation. A definite diagnosis depends upon radiologic evidence and upon this alone.

The characteristic x-ray picture consists of a central mushroom or cauliflower-like negative shadow located at the base of the duodenal bulb, the so-called "umbrella sign". This deformity is characterized by variability, frequently presenting a different appearance during the same examination and almost invariably presenting some change when the examination is repeated on a different occasion.

At one time the duodenal bulb may be almost filled with a non-opaque intraluminal protrusion and at another only a small portion of the bulb adjacent to the pylorus may be involved. Quite often the redundant mucosa can be traced from the antral canal through the pyloric opening into the base of the bulb. Gastric peristalsis is usually hyperactive. At times the lesion may not be seen fluoroscopically and will show up only on the films. Indeed, the process cannot always be demonstrated on a single examination and may at times be visible in only one or two of several radiographs taken at the same examination. It is frequently necessary to make examinations on two or more occasions before the lesion actually presents itself. Visualization is best obtained in the conventional right postero-oblique projection.

Conditions which may simulate the radiologic appearance of prolapsing gastric mucosa are:

1. Prolapsing gastric polyp: This is the most difficult lesion to differentiate. Archer[8] believes that it is almost impossible to distinguish these two entities. Mucosal folds traversing the pyloric canal, however, are seldom seen in association with a prolapsed polyp and the polypoid defect of a prolapsed gastric polyp is frequently eccentric; whereas the defect associated with prolapsing gastric mucosa is usually centrally located in the base of the duodenal bulb.

2. Duodenal ulcer may be confused with this condition but is usually found on the anterior or posterior aspect of the bulb rather than in the base and is more apt to produce deformity of the entire bulb. During fluoroscopic examination the duodenal bulb does not appear irritable in the presence of prolapsing gastric mucosa as it does with duodenal ulcer.

3. Hypertrophic pyloric stenosis may infrequently be confused with this condition, but the presence of a central streak of barium in the lobulated filling defect would indicate the presence of prolapsing gastric mucosa.

Cases

Brief summaries of the essential findings in the nine cases comprising this series are presented below.

Case I.—A middle-aged, married woman, when first seen, gave a history of severe epigastric pain which became worse after meals. There had been nausea and vomiting and one episode of severe hematemesis. On original gastro-intestinal x-ray studies a diagnosis of gastric polyp prolapsing into the duodenum was made (Fig. I).

At operation, a suspicious thickened area was seen on the lesser curvature; no polyp could be found. This thickened area was removed in order that microscopic studies could be made to exclude carcinoma *in situ*. These studies did not reveal any

Fig. 1. Intraluminal filling defect in duodenal bulb. Such deformity could be produced by either polyp or prolapsing mucosa.

malignancy. Post-operatively the patient did not show any improvement. Repeated gastro-intestinal studies done post-operatively showed the persistence of a prolapsing pyloric lesion.

A diagnosis of prolapsing mucosa was made and at a second operation a partial gastrectomy was performed (Figs. II and III). Complete relief was afforded post-operatively for three weeks, and then the patient developed edema of the stoma with retention in the gastric remnant. When this edema subsided, she developed a persistent dumping syndrome and has continued to suffer from symptoms of post-prandial nausea and weakness.

Fig. 2. Unopened operative specimen from Case 1 showing prolapsed mucosa.

Fig. 3. Opened operative specimen from Case 1 showing hypertrophic hypermobile mucosal folds.

Case 2.—A middle-aged man had had epigastric distress for three years. He suffered from occasional vomiting and had one episode of hematemesis.

His x-ray studies showed a mucosal prolapse associated with a Maltese Cross deformity which would ordinarily be indicative of duodenal ulcer. Symptoms persisted in spite of conservative treatment. Relief was obtained after a subtotal gastrectomy was performed. At operation no ulcer was found (Fig. IV).

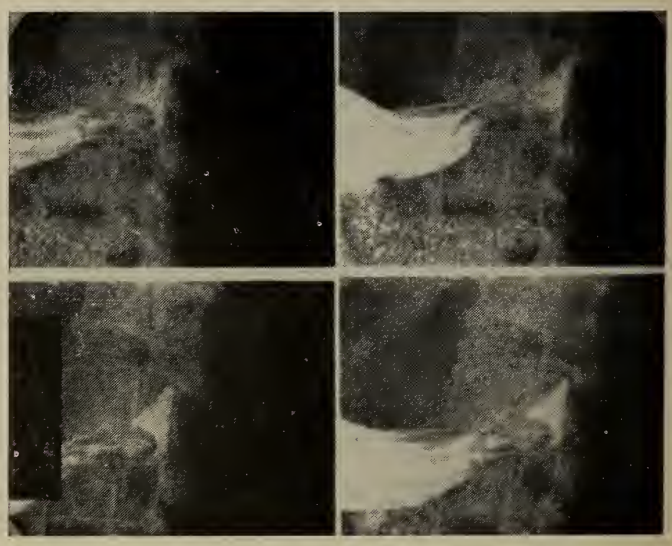

Fig. 4 Pictures of Case 2 showing maltese cross deformity in association with mucosal prolapse. No ulcer found at operation.

Case 3.—A 54 year old woman complained that her stomach had been "swelling" and had a vague sense of discomfort in the epigastrium. There was

no nausea or vomiting and no hematemesis.

Roentgenography showed prolapsed mucosa and a small hiatus hernia which was believed to be insignificant (Fig. V). This patient obtained relief from conservative therapy.

Fig. 5. Case 3. Prolapsed mucosa associated with a small hiatus hernia.

Case 4.—A 37 year old woman complained of pain in the mid-abdomen, more severe after meals. There had been no vomiting.

X-ray studies showed prolapse of the gastric mucosa without any other associated pathology. Relief was obtained from conservative therapy.

Fig. 6. Case 6. Prolapsed mucosa erroneously diagnosed duodenal ulcer on several occasions.

Case 5.—A 69 year old man complained of vague epigastric distress when his stomach was empty. A week before this investigation he vomited blood for three days and passed black tarry stools.

The roentgenographic examination showed an uncomplicated prolapse of the gastric mucosa. He was treated conservatively and has received symptomatic

Fig. 7. Case 7. Uncomplicated prolapsed gastric mucosa.

relief. There has been no further hematemesis or melena.

Case 6.—A middle-aged male suffered from epigastric discomfort. There had been nausea but no vomiting. At times he experienced burning epigastric pain which radiated through to the back.

X-ray studies revealed a prolapse of the gastric mucosa (Fig. VI). This patient obtained relief from conservative therapy.

Case 7.—A 57 year old man suffered from occasional indigestion and vomiting associated with gagging. A few days before his x-ray examination he vomited blood and passed tarry stools.

Roentgen ray observations disclosed an uncomplicated mucosal prolapse (Fig. VII). This patient obtained relief from conservative treatment. There has been no further hematemesis or melena.

Case 8.—A 54 year old male had suffered from epigastric pain of three years duration. There had been no nausea or vomiting and bowel habits had been regular. Food seemed to aggravate the symptoms on some occasions and relieve them on others.

Studies in this instance revealed mucosal prolapse with an associated so-called antral gastritis (Fig. VIII). This patient obtained relief from conservative

therapy.

Case 9.—A 33 year old colored woman had had some epigastric distress and discomfort ever since adolescence. She had suffered from occasional episodes of epigastric pain accompanied by nausea and vomiting for the same length of time. She had gastro-intestinal x-ray studies performed twice in the past, the first one several years ago and the last one about seven months prior to this examination. Each time she was told that the x-rays showed a suggestion of a duodenal ulcer. She had continued to have attacks of sharp epigastric pain accompanied by nausea and occasional vomiting. At times this pain radiated through to the back. Her symptoms did not show any definite relation to food but were occasionally relieved by alkali. There had never been any hematemesis or melena. Her suffering had been almost continuous for the week before she was admitted to the hospital.

Fig. 8. Case 8. Prolapsed mucosa with associated so-called antral gastritis.

The x-ray studies of the upper gastro-intestinal tract showed a prolapse of the gastric mucosa and a small gastric ulcer which was located on the lesser curvature near the incisura (Fig. IX). This patient was placed on a bland diet with antacids and antispasmodics. She responded well and was symptom-free when she left the hospital. Since discharge, however, she has had a return of her symptoms, and we believe that this patient will eventually have to be treated surgically.

Treatment: The earlier articles on this subject emphasized surgery as the treatment of choice. This was due to the fact that only the more serious cases were diagnosed at that time and in these instances the severity of the symptoms warranted exploration.

As roentgenologists have become more skillful in picking up mucosal prolapse, more and more mild cases in which the prolapse was less extensive and the symptoms less severe have been found.

We believe that most of these cases can be treated medically and will obtain sufficient relief from a bland diet and antispasmodics to make surgery unnecessary.

Fig. 9. Case 9. Prolapsed mucosa accompanied by gastric ulcer.

Surgery should be reserved for those cases in which symptoms are marked and do not respond to conservative measures and to those cases which experience repeated hemorrhage in spite of conservative therapy.

Surgical therapy when decided upon usually follows one or two general plans. The more conservative of these consists of exploration of the pyloric portion of the stomach with resection of the redundant mucosa. The mucosal continuity is then restored and the sutures which accomplish this are so placed that they fix the mucosa to the deeper layers of the stomach and correct its hypermotility. When this part of the procedure has been completed, some form of pyloroplasty is performed. A Finney pyloroplasty is the type which has been used most frequent-

ly but Mikulicz and Fredet Rammstedt procedures have both been employed with good results.

The other or more radical surgical therapy consists of removing the offending portion of the stomach by means of a partial gastrectomy. This approach has the advantage of removing the pathological tissue. Its main disadvantage lies in the fact that it may on rare occasions be followed by incomplete obstruction due to edema of the stoma or by the distressing symptoms which accompany the "dumping syndrome".

It would seem on theoretical grounds that this condition lends itself admirably to treatment by means of a Billroth I gastrectomy. This procedure would permit removal of the pyloric portion of the stomach and the resulting gastroduodenostomy would produce a more physiological organ than the gastrojejunostomy resulting from a polya type of procedure.

CONCLUSIONS

1. From experience with this series and from a study of reports in the literature, particularly the more recent ones, we believe that prolapse of the gastric mucosa is much more common than is generally suspected.

2. Since the physical findings and symptoms are not characteristic, diagnosis can only be established roentgenologically.

3. The symptoms of this condition can be controlled medically in the majority of cases.

4. We believe that surgery should be reserved for those cases in which symptoms are marked and do not respond to conservative measures and to those cases which experience repeated hemorrhage in spite of conservative therapy.

5. When surgery is decided upon, we believe that an operation should be performed which will remove the offending portion of the stomach. This would be a gastrectomy and for this condition we believe that a Billroth I procedure is the gastrectomy of choice.

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A SHORT TOUR OF THE VIRGINIA PENINSULA*

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As President of the Virginia Peninsula Academy of Medicine I am grateful to your program committee for the opportunity to greet you on this memorable occasion, your 49th annual State Convention.

It is indeed an honor and a happy privilege to welcome you here this evening to this not always too peaceful garden spot of our nation, for in every war in which our country has been involved this peninsula has been the scene of much activity. During these threatening times this port has been one of the great ports of embarkation and debarkation of soldiers, guns and supplies, and our harbor was dotted with hundreds of merchant men, transports and navy escorts, while in the more recent conflict the skys overhead echoed the sound of thousands of propellers as our mighty air force soared to and from its base at near by Langley Field.

To assist you in becoming oriented, so that you may enjoy your visit more, you are now invited to accompany me on a short tour of the Virginia Peninsula, after which, with your indulgence, I wish to make a few remarks concerning the socialistic trend of the times.

You are now seated on the roof garden of the Chamberlin Hotel, which is located on the extreme tip of the Virginia Peninsula, bounded on the north by the picturesque York, and on the south by the noble James; overlooking historic Hampton Roads and the sky blue waters of the Chesapeake Bay—cited by some historians as "The Mediterranean of the West". This vast domain was once inhabited by the redman and ruled over by the mighty Indian Chief Powhatan. As we reckon the age of a nation it seems but yesterday when the tribe man lived in the nearby village Kecoughtan, feasted in luxury on seafood and wild game and danced before his campfires in celebration of many happy events, not the least of which was the season of the hunter's moon. So recent does this seem, that it is said, on the dark of the moon and in the still of the night, if one watches from the banks of Hampton River with a keen eye and an acoustic ear, the shadow of his canoe can still be seen, and the quiet stroke of his paddle heard, as he rounds the cove of Sunset Creek, homeward bound, to be greeted by his squaw as she sits before the glowing embers in their wigwam, awaiting his return.

Come with me now on a limited voyage and I shall unfold before your vision a panorama of interesting history whose glorious past is unexcelled and to whose charm and enchantment modern civilization through its restorative power has attempted to add glamour.

As we embark at Old Point Comfort and sail the blue waters of Hampton Roads, Tidewater Virginia history begins to reveal itself. On either side we view many land marks of past history on which is grafted its present magnificent greatness. We continue up the James River and hurriedly view some of the historic shrines of the early settlers. As we approach Jamestown Island, the birth place of this nation just 342 years ago, we see in the distance the only remains of colonial structure on the island—the old church tower, preserved for posterity by that noble society, the Association for the Preservation of Virginia Antiquities. Around the remains of this Church can be seen the tombs of many of the early settlers, and its ivy mantled tower stands as a fitting monument to their faith in God. Among the more recent markers on this hallowed spot, there stands near the water's edge a bronze statue of the beautiful Indian Princess Pocahontas, more picturesque as the day dies out in the west, and at eventide her shadow lengthens over the never ceasing ebb and flow of the nearby waters. As twilight closes in, her figure, silhouetted against a darkening horizon, can be seen gazing in the distance—a symbol of a vanishing race—a lone sentinel over a dead past.

As we journey further up the James on either side can be seen many colonial estates, whose spacious mansions and colorful gardens mirror the past and reflect the warmth and hospitality extended those who entered their portals. It was before the hearth stones of these homes that our forefathers dreamed of liberty and self-government and were to realize that dream on the historic battlefields of Yorktown.

*An address by the President of the Virginia Peninsula Academy of Medicine before the Graduate Nurses Association of Virginia at their 49th Annual Convention at Hotel Chamberlin, Old Point Comfort, April 13, 1949.

We now travel by land a short distance to restored Williamsburg, truly a cluster of historic shrines, betraying the grandeur and glory of the golden age of Tidewater Virginia. Time will not permit my enumerating each of these interesting shrines, but we must pause to give recognition to the Wren Building, on the William and Mary College Campus, facing Duke of Gloucester Street, said to be the only building in America designed by that great English Architect, Sir Christopher Wren. As we travel down Duke of Gloucester Street, we pass many buildings whose history is most interesting, and at the east end of this street we see the old Capitol, still flying the British Jack, where the House of Burgesses met on many memorable occasions and whose walls echoed the belligerent voice of the great Patrick Henry and where George Mason proclaimed The Virginia Bill of Rights.

Another short journey over a picturesque highway that winds through forest and dell, over inlet and stream to trail along the banks of the blue waters of the York until we approach Yorktown's historic battlefields, which at this season of the year are canopied with the golden glow of buttercups and hedged by yellow blossoms of Scotch Broom against a white background of flowering dogwood. Here in this quiet serene environment we pause to look over the field of valor and reappraise our great heritage. A few steps to the near by banks of the York, overlooking this beautiful harbor stands a marble shaft on which is mounted a goddess of liberty, surrounded by her attendants, erected in commemoration of that great achievement of our forefathers, the Independence of America. In reverence, we stand with bowed heads and give thanks to God.

In this brief panorama of Virginia Peninsula history, we have voyaged on historic waters and traveled over sacred soil, paused with reverence on the field of valor, reappraised our great heritage and passed many mile stones of hardships and tragedies as we step by step approach our destiny.

So it behooves us in our ever onward march of progress that we remember our great heritage and the sacrifices by which it was achieved. That we vary not too far from the fundamental precepts and teachings of our forefathers. That we turn a deaf ear and a belligerent fist to the many "Isms" that infest the day, warp our thoughts and dim our vision. By so doing we shall remain the "masters of our fate, the captains of our souls", and shape our own destiny.

In this connection let me warn you of the Socialistic trend of the times. Socialized Medicine is but an entering wedge, advocated at this time to fulfill a political promise to pay a political debt.

In the hands of unscrupulous politicians, state medicine is an easy branch of socialism to sell the man on the street, the unthinking public who is always anxious to obtain something for nothing. Then too, there are those among us who know better, yet are weary of individual resourcefulness and willing to sacrifice their freedom and become regimented wards of a bureaucratic state. The high ranking politicians and labor leaders of today recognize socialized medicine as the pearl of great price and its potential value from a political view point. These men, under the guise of leadership and a so-called mandate from a questionable majority of the people, hope to use this great power to turn on the heat that will forge today the shackels they hope we shall wear tomorrow.

Beware of those who under the pretense of benevolence would come bearing gifts to the people. Be not deceived, tomorrow they will demand that pound of flesh. Let us awake from this lethargic state, this seemingly pleasant dream. Let us meet our sociological obligations and solve our problem in the American way.

State Medicine is an obsolete movement, which was founded by Bismarck about 1879. From Germany it has spread to every country in Europe, as a part of a socialistic movement and to Russia as a political aid to communism. At the present time it is undergoing a great experiment in England, while we look on and pay government employed columnist out of public funds to expound the virtues of this great humanitarian crusade—a part of the well planned propaganda to sell it to those who do not think for themselves. Incidentally, considering Europe's past and present we should hesitate to adopt its ideologies.

True, it is, that there are indigents who need medical care and should have it at any cost; but let us pay this cost from the public treasury as we would any other necessary public welfare obligation, and not impose compulsory insurance on the poor as well as the rich. I might remind you, that these same indigents also need food, raiment, shelter and

sanitation, and, if compulsory insurance is necessary to provide medical care, it is also necessary to provide these other essentials. When we adopt this method of furthering the needs of the people, we are well on our way to a socialized state and cannot retrace our steps.

The administration's proposed Compulsory Health Insurance bill would, by compulsory insurance, cover only those who are working and their dependents, leaving approximately 35,000,000 people unprotected. To administer this plan of socialized medicine, it is estimated that it would require at least 600,000 more federal employees. Of course our taxes would be raised in proportion.

We now have 52,000,000 people covered by voluntary medical insurance with the number increasing rapidly each year. The public is insurance minded and is realizing the importance of voluntary medical and hospital insurance. As medicine has progressed, it has become more costly. More expensive diagnostic equipment and more expensive drugs are required to combat diseases. The cost of educating and training a doctor or nurse has tripled. The time required to train a doctor makes the average age of a physician about 30 years before he earns a livelihood. Statistics show that it costs the average doctor in the United States $7,200.00 per year to maintain his office. Therefore, medicine is expensive to the layman and the doctor alike.

There is now before Congress a substitute medical bill, introduced by Senator Hill of Alabama, that is acceptable to organized medicine. This bill proposes to aid voluntary insurance by paying the premiums for the indigent and unemployed from the public treasury. It also would appropriate funds for research work, medical schools, hospitals, training centers for nurses, health centers, etc., by rendering direct financial aid to the States. In other words, it is a bill which will help in the progress of medicine and build on the firm foundation that now exists. It will not produce a dangerous drain on our economy, nor the chaotic confusion that would necessarily follow in the wake of the administration's compulsory health insurance bill.

Suffice it to say, volumes have been written on this highly controversial subject and time does not permit detailed discussion. However, it is my humble opinion, and the opinion of over 150,000 doctors in this country and many millions of far-sighted laymen with analytical minds, that if the Administration's present compulsory health insurance medical bill is adopted, it will be a national misfortune of enormous import and the end of progressive medicine as we know it today.

In closing, I would pay this tribute to the Graduate Nurse. To the progress of modern medicine she is indispensable. To her patient she is like unto the morning glory in the wake of the dewy dawn, to the petals of the rose in the beams of the noon day sun. To him she is his beacon light, his guiding star, his guarding angel, who keeps the lonely vigil of the night. It is her ever watchful eye that notes the flush or pallor of his cheek. It is her hand that strokes his weary brow and her voice that speaks the encouraging word that guides him through the dark and wearied caverns of hopelessness and despair. It is her spirit that soothes and sustains him in his darkest hour. Her reward:—The distant echo of that soft still voice saying, "As often as ye have done it unto one of the least of these my brethren, ye have done it unto me".

Medical Arts Building

PUBLIC HEALTH

L. J. Roper, M.D.

State Health Commissioner of Virginia

The report of the Bureau of Communicable Disease Control of the State Department of Health for November 1950 as compared with the same month in 1949, and for the period of January through October 1950 as compared with the same period in 1949, is as follows:

	Nov. 1950	Nov. 1949	Jan.-Nov. 1950	Jan.-Nov. 1949
Typhoid and paratyphoid	5	14	84	144
Diarrhea and dysentery	185	243	3,644	5,674
Measles	78	32	2,683	21,336
Scarlet fever	91	146	816	735
Diphtheria	18	38	173	176
Poliomyelitis	85	25	1,153	330
Meningitis	14	6	112	79
Brucellosis	8	7	61	69
Rocky Mountain spotted fever	1	0	75	101
Tularemia	3	2	37	30

The Development of Immunity to Poliomyelitis

In a report to the recent meeting of the American Public Health Association in St. Louis, Dr. T. B. Turner, of the Johns Hopkins School of Hygiene and Public Health, pointed out that children and adults develop anti-bodies because of one or more contacts with poliomyelitis virus in their childhood. Only rarely do these contacts result in recognizable clinical disease.

In a survey of 970 persons of varying ages in Baltimore, blood specimens were tested to determine the level of infection in different age groups. The test for antibodies was against the Lansing Virus, one of the three known types causing human poliomyelitis.

On those tested Dr. Turner reported the following reactions:

Under 3 months	72% had protective antibodies
3 months—1 year	10%
1-4 years	50%
5-9 years	72%
10-14 years	84%
15 years and over	90%

In a review of 185 reported cases of poliomyelitis from Wythe County in 1950 the age grouping of these cases is shown in the following table:

	No. of Cases		Possibly Protected in General Population
Under 1 year	8	4.3%	
1-4 years	62	33.5%	67%
5-9 years	56	30.3%	70%
10-14 years	28	15.1%	85%
15 years and over	31	16.8%	83%
	185	100.0%	

With the high attack rate in Wythe County and the distribution of reported cases, it may be assumed that the virus was widespread over the county and that all age groups, with the possible exception of young infants, had the opportunity to become infected. If we assume that in the main those who did not come down with poliomyelitis had protective antibodies because of infection at some previous period, then the similarity in the Baltimore series and the Wythe County series as regards protection, is interesting and possibly significant.

We are aware of, and have attempted to avoid, an all too common tendency in the use of statistics. In a recent debate between representatives of a British and an American Institution, the Britisher accused his opponent of using statistics as a drunken man uses a lamp post; for support, rather than illumination.

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,

Commissioner, Department of Mental Hygiene and Hospitals.

State Mental Hospital and Clinic Statistics

One of the important phases of a mental health program is a statistical system whereby plans may be developed and results tabulated on a numerical basis.

The statistical system which has been developed by this Department for the tabulation of such data is considered among the best in the United States. It had its beginning in 1938 when the State Hospital Board was established and at which time statistical records were set up on a central control system instead of as an individual hospital procedure.

In order to have an efficient system, the use of punch cards for tabulations was inaugurated. Also, a central registry system including all patients on the records as of July 1, 1938, was established. To this registry all admissions to State hospitals and colonies and, as they are established, the mental hygiene clinics, are filed as a permanent record.

The case history of a patient is kept in the hospital or clinic. Certain basic information is reported to the central statistical system on coded cards which are used as a basis for tabulations of such items as diagnosis, sex, age, residence, education, race, nativity, marital status, environment, occupation and alcoholic habits. This central registry system supplies information as to whether patients have received previous treatment in a hospital or a clinic. Through the medium of coded cards submitted by the hospitals, the central statistical system maintains a record of all trial visits, escapes and returns to hospitals. All discharges and deaths are also reported on coded cards. Data are tabulated for discharges giving length of stay in hospitals, age at time of discharge, and condition on discharge (recovered, improved, unimproved). Reports on deaths give length of stay of patient and age, cause of death. All of these are tabulated according to diagnosis.

In the reports from mental hygiene clinics the data are tabulated as to source of referral, age, sex, race, diagnosis, intellectual level of the child, recommendations made and the treatment given. Other factors will be tabulated as the clinic program continues to develop.

One of the attributes of the central registry system is the value it will have in determining the success of our mental hygiene clinics. These records are set up so that it will indicate whether or not a patient who has been treated in a clinic eventually requires hospitalization. In this manner we can determine the ratio of patients who are treated in clinics to those who eventually require hospitalization. In this way the value of the clinics to the individual, the community and the State may be ascertained.

The Department of Mental Hygiene and Hospitals has now on hand twelve years of statistical data available for special research studies. Some special studies have been made and more are planned; however, due to limited personnel the statistical division is handicapped in the field of mental hygiene and in supplying data to other State Departments and for legislative studies. Material is available from either the numerical standpoint or from coded information for research, on special authorization; however, names of patients and their families are kept as confidential records by the Department and at no time is the central registry open for public inspection.

Mental hygiene clinic statistics under the State program were started during the year 1946-1947 but it was not until the year beginning July 1, 1947, that a central reporting system was inaugurated. The statistical reporting by the clinics was not standardized until July 1, 1950. At this time a permanent system was put into effect. At the present time we have fourteen State clinics. Since the opening of the clinics 9,461 persons have been admitted. Under treatment as of June 30, 1950 there were 2,716 patients. Our mental hygiene program plans call for a total of 30 clinics in Virginia. This is based on the recommended ratio of one clinic to 100,000 population. In view of the fact that only 14 clinics have been established it can be seen that clinics are now

available to less than half of the people of Virginia. It is worth noting that the number of admissions to these 14 clinics is approximately the same as the number of admissions to the State hospitals and colonies for the same period.

It might be of interest to give a few statistical facts that are shown by the records and which indicate some of the problems that are a part of the care and treatment of the mentally ill.

For the twelve years, July 1, 1938 to June 30, 1950, 40,315 patients were admitted to the State hospitals and colonies. Approximately 70 per cent of these were first admissions (no record of previous hospitalization for mental disorder). On July 1, 1938, there were 9,894 patients in hospitals; on June 30, 1950, there were 12,094, an increase of 2,200 or 22 per cent. This does not indicate any abnormal increase in the incidence of mental illness in Virginia because, during the same period of time, the general population increased 22 per cent. The ratio of patients in our hospitals to that of the general population, which is 4 per 1,000, has remained approximately the same for the past 12 years.

The increase in population is reflected in the overcrowding of our mental hospitals and State colonies. The overcrowding ratio as of June 30, 1950, was 23 per cent. The Virginia State hospitals have a rated capacity for 9,829 beds and on June 30, 1950, there were 12,094 patients in residence. This indicates that the facilities for caring for the mentally ill in Virginia are not keeping pace with population trends.

Our statistical records show that approximately a third of the first admissions to our mental hospitals are 60 years of age and over. In 1943 this age group made up about one-fourth of the admissions. This rate has gradually increased since that time. The resident population of mental hospitals now shows approximately one-third in the 60 years of age and over group. This has increased from a rate of about one-fourth in 1940. This factor has brought forth a serious problem in maintaining adequate housing and medical care for this class of patients.

Our records show that 70 per cent of all first admissions are psychotic and of the 30 per cent without psychosis, approximately 60 per cent are alcoholics and drug addicts. Of patients admitted with a psychosis about 40 per cent are in the senile-arteriosclerotic group and 10 per cent each of the dementia praecox (schizophrenia) and manic-depressive groups. Of the patients resident in hospitals approximately 88 per cent, have a psychosis. Of this number, 39 per cent are in the dementia praecox group (schizophrenia), 23 per cent manic-depressive group, 12 per cent senile-arteriosclerotic group and 7 per cent are in the general paresis and syphilis of the central nervous system group. Considering our discharge rate by classification, our statistics show that in the group discharged diagnosed as psychotic 40 per cent were discharged as recovered, 52 per cent as improved, and 8 per cent as unimproved. Forty per cent of the total discharges were diagnosed as without psychosis. Most of this latter group were committed for observation, inebriety, drug addiction, or as mental defectives.

The statistical records also show that we now have an average of approximately one physician for 500 patients, one nurse for 250 patients, and one attendant for 11 patients. This figure is calculated on a 24-hour basis. It can readily be seen that if these calculations were made on an 8-hour basis the ratio would show an entirely different picture, i.e., the ratio would be one employee in each of the above classifications for three times as many patients in any 8-hour period.

In conclusion, the aim of the statistical division of this Department is not only to keep accurate records, but, also, to build up a source of statistical information which will prove most useful for planning and for purposes of research in the field of mental health.

BOOK ANNOUNCEMENTS

Immortal Magyar. Semmelweis, Conqueror of Childbed Fever. By FRANK G. SLAUGHTER, M.D. Henry Schuman, Inc., New York, 1950. 211 pages. Cloth. Price $3.50.

In the 5th volume of Medical Classics, Murphy lists 109 biographies of Semmelweis. In spite of all this biographical study, there are still phases of his tragic life that need elucidation. It is now generally agreed that Semmelweis discovered the cause of puerperal fever in so far as that were possible before bacteriology was known. It is also well known that he died in an insane asylum of a wound infection. It is not so well known whether this was self-inflicted or accidental. When he became insane is also controversial. Did the rejection of his theory drive him crazy or was his unbalanced mind the reason his work was not generally accepted in his life time? So there is still room for biographical investigation.

Frank G. Slaughter's book is the 15th of "The Life of Science Library" and like the others of this series, has an attractive format, well illustrated, and is easy to read. He traces Semmelweis' efforts to find the reason that the first division of the great Vienna Maternity Hospital had a much higher mortality from childbed fever than the second division. The only difference in the two divisions was that the first was devoted to the training of doctors and the second to the training of midwives. The medical men performed autopsies the midwives did not.

After some four months of testing all the accepted theories of the cause of this disease, Semmelweis recognized the similarity in the autopsy findings in a case of pyemia in a colleague who died of wound infection received in doing a post mortem examination and those of his patients who had died of puerperal fever. At first he thought that cadaveric particles was the sole cause, especially since the mortality in the first division dropped when the students were required to wash their hands in chlorine water until the cadaveric odor disappeared. Later, he learned that the infectious material could come from cancerous or other ulcers in the living, as well as the dead. The prophylaxis was the same in either case. He convinced himself, but made little effort to convince others. He and Professor Klein soon became at odds. Eventually, Semmelweis lost his position in the University and retired to Budapest without even telling his friends goodbye.

Slaughter treats the Budapest era more fully than is done in the readily available American biographies. It was there, especially after he began to write his great opus, that he began to show signs of a persecution complex, and to have more marked signs of mental aberration.

Although our author does not stress the point, his story beautifully illustrates the baleful effects of political medicine. Professor Boër, who was trained in France and England, put into effect the English ideas of cleanliness when he became Professor of obstetrics in Vienna. Through the 20 years of his professorship, the maternal mortality was 1.3%. He was removed for political reasons and Professor Klein, a political appointee, got his place. The maternal mortality immediately rose to 7.8%. Instead of encouraging his staff (Semmelweis was his assistant) to undertaking original investigation, this political doctor did everything to discourage advancement of knowledge. Order and regimentation were what appealed to him, as it always has to bureaucrats the world over.

In Budapest, after Semmelweis had gotten puerperal fever under control by his prophylaxis as he had done in Vienna, there was a small outbreak. Semmelweis investigated at once. He found that the bureaucrats in charge of running the hospital there gave out the contract for the laundry in a typical political manner. Semmelweis found that freshly delivered women lay on sheets reeking from discharges of previous patients. He naturally blamed the nurses for not changing the bed linen. This, however, proved not to be the case. The sheets had been sent to the laundry but had been returned without having been laundered.

This chapter of medical history is an instructive one from many points of view. Dr. Slaughter has told the story in a straightforward factual manner without undue emotion.

M. P. R.

Human Sterilization. Techniques of Permanent Conception Control. By ROBERT LATOU DICKINSON and CLARENCE JAMES GAMBLE. Waverly Press, Inc., 1950. 40 pp.

This little book, a companion piece to the well known *Techniques of Conception Control* by the same authors, has the same format as the older work.

It is profusely illustrated in the senior author's well known style. It has chapters on the effect of tubectomy on sexual life, on the physician's responsibility, and on the laws in regard to sterilization in the various states. There is a well arranged bibliography.

M. P. R.

The Mask of Sanity. An Attempt to Clarify Some Issues About the So-Called Psychopathic Personality. By HERVEY CLECKLEY, M.D., Professor of Psychiatry and Neurology, University of Georgia School of Medicine, Augusta, Georgia. Second Edition. St. Louis, The C. V. Mosby Company. 1950. 569 pages. Cloth. Price $6.50.

In the revised second edition of the "Mask of Sanity", Dr. Hervey Cleckley is striving to clarify some issues about the so-called psychopathic personality. Dr. Cleckley has been personally quite interested in this particular category of emotional disorder for a number of years. Since presenting the first edition some ten years ago, Dr. Cleckley has been besieged by numbers of psychopaths, their families, friends, ministers, and physicians. It is from this additional wealth of clinical experience that he has revised the present edition. The first main body of information which he presents is a series of case histories. These are quite attractively presented with much of the trivial details removed and yet enough information retained so that the reader is able to draw a rather cohesive picture of each of these persons as an individual. He then presents some of the more subtle variants of this clinical entity and describes psychopaths who have been able to make a partial adjustment to normal living. The second step is an elaboration of his concept of the psychopathic personality. He differentiates the psychopath from other emotional states and social deviates such as the psychotic, psychoneurotic, mental defective, ordinary criminals, some specific sex deviations, classes of alcoholics, and malingerers. Dr. Cleckley then draws a clinical profile of the typical case. The one central theme that dominates the book is a plea for unified effort in promoting research and clinical investigation in the hope that some satisfactory plan may be devised to care for these people. One might become involved in a discussion of semantics while trying to evaluate Dr. Cleckley's concepts. There are those who argue that the illness in the patients he describes represents more nearly a psychoneurotic manifestation rather than a true psychopathic personality. Others would classify the patients he describes as neurotic characters. It would appear, however, that all of these clinical descriptions are concerned with a rather circumscribed group of individuals. This book carries an excellent description of this group of patients, call them what you will.

M. W. F., JR.

Physicians' and Nurses' Concise Medical Encyclopaedia. By WILLIAM H. KUPPER, M.D. Biblion Press, Los Angeles, California. 1950. viii-450 pages. Illustrated. Cloth. Price $7.50.

Fifty years ago there was a veritable epidemic of little medical books called "Essentials" (of this or that). Each field of medicine had one or more such books. Today they have largely passed on. At that time there were no medical dictionaries; those then called dictionaries were really condensed medical encyclopedias. These have also passed on except one (Blacks) still published in England.

Now here comes a book of the type of one of the old "essentials" but in this case it condenses the whole field of a medical encyclopedia. One looks at it with mixed feelings as of something born out of due time. One wonders if it can live in 1950. It would seem that an Essentials of Gynecology or of Ophthalmology would have a better chance.

There is no use looking it over as the author, in the preface, disclaims responsibility for any and all errors (except certain Spanish synonyms) and anyway who am I to say what should go into such a book or how?

E. C. L. M.

EDITORIAL

George Richards Minot (1885-1950)

SPECIFIC cures in medicine are rare. Most of them, such as quinine in malaria, are empiric. When a cure is found, as the result of analysis of facts discovered by physiology and pathology, it is a feat to be proud of. When the disease is widespread, prevalent, and invariably fatal, the discoverer of a cure for it deserves the gratitude of the people. Such a disease was pernicious anemia and such a man was George Richards Minot.

If background and heredity have any virtue, George Minot was highly qualified for great accomplishments. His father was Dr. James Jackson Minot (1853-1938). His great uncle, Dr. Francis Minot (1811-1899), had been Hersey professor of the theory and practice of physic in the Harvard Medical School. He was also the first clinical lecturer on the diseases of women and children at Harvard. His portrait hangs in the Boston Medical Library. His father's cousin, Dr. Charles Sedgwick Minot (1852-1914), was professor of histology and human embryology. His grandmother was the daughter of Dr. James Jackson. In the early 19th Century, Dr. James Jackson had a managing finger in everything medical in Boston, besides being a founder of the Massachusetts General Hospital and the *New England Journal of Medicine and Surgery* and a professor in the Harvard Medical School.

George Minot was born in Boston, December 2, 1885. Of course he went to Harvard College where he received his A.B. degree in 1908, and to the Harvard Medical School where he graduated in 1912. He was house officer at the Massachusetts General Hospital, 1912-13; assistant resident physician Johns Hopkins Hospital, 1913-14; assistant in medicine and research fellow in physiology, Johns Hopkins Medical School, 1914-15. "Already proficient in knowledge of the blood, he returned to Boston to enter on his life's work." He was a member of the staff of Massachusetts General Hospital 1915-23; associate in medicine Peter Bent Brigham Hospital 1923-28; chief of the medical service at the Collis P. Huntington Memorial Hospital, 1923-28; professor of medicine at Harvard Medical School 1928-48. He was also visiting physician at Boston City Hospital and director of the Thorndike Memorial Laboratory of the Boston City Hospital. He was on the editorial staff of the *Boston Medical and Surgical Journal* (and of the *New England Journal,* its new name) from 1921-1943.

In 1915 he married Marian Linzee Weld. Six years later he developed glycosuria. The diabetes was controlled by a meticulous diet for two years and when insulin became available he was one of the first to take it. Dr. Joslin gives full credit for the successful management of the case to Dr. Minot's wife. "It was she who protected every minute of his existence, his going out and his coming in. It was she who weighed his food and saved him from the management of his disease, and she did it all in so unobtrusive a manner that neither he nor others realized it." Perhaps the success of the diet treatment in his own case may have been a factor in his great discovery of the cure for Addison's anemia.

Addison, himself, Habershon, Biermer, Pepper and Osler all had noted the frequent benefit that followed a change of air and better diet. No special diet was recommended, the idea being to improve nutrition. No one seemed to have in mind a specific effect upon either the formation or destruction of red blood cells. Whipple and

his co-workers at Rochester N.Y. showed that dogs made anemic by repeated bleeding, recovered more promptly when fed large quantities of liver and kidney. Minot and Murphy determined to try this in the treatment of pernicious anemia, since liver had a specific action on the formation of red blood cells. In 1926 they reported 45 cases of pernicious anemia treated with a diet based on Whipple's work, i.e., a diet poor in fat and rich in liver. These patients had prompt remissions that lasted as long as they continued to take large quantities of liver. This work was abundantly confirmed. In 1934, Minot, Murphy and Whipple were awarded the Nobel prize in medicine.

Honors poured in upon the three from all parts of this country and abroad. Minot became honorary fellow of the Royal College of Physicians, Edinburgh; Royal College of Physicians, London; New York Academy of Medicine; Institute of Medicine of Chicago; Royal Society of Medicine, London; vice-president étranger, Société Française d' Hematologie; fellow American Philosophical Society, Philadelphia; president Association of American Physicians; president American Clinical and Climatological Association; honorary member of the Royal Academy of Medicine (Belgium); honorary member of Kaiserlich Leopold Caroline Deutsche Akademie der Naturforscher (Halle); Society of Biological Chemists (India); and the Finnish Society of Internal Medicine.

He was awarded the Kober gold medal of the Association of American Physicians in 1928; the Charles Mickle Fellowship, University of Toronto in 1928; Cameron prize of the University of Edinburgh in 1930; gold medal of the National Institute of Social Sciences 1930; gold medal and award of *Popular Science Monthly* in 1930; Moxon medal of the Royal College of Physicians, London in 1933; John Scott medal of the City of Philadelphia in 1933; gold medal of the Humane Society of Massachusetts in 1935 etc., etc.

International Classification of the Stages of Carcinoma of the Uterine Cervix

THE desirability of uniform classifications for worldwide use needs no argument. At the International and Fourth American Congress on Obstetrics and Gynecology the classification of cervical cancer was discussed. A committee of representatives of the Section on Obstetrics and Gynecology of the American Medical Association, the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons, and the American Gynecological Society met with the Editorial Committee of the Annual Report on the Results of Radiotherapy in Carcinoma of the Uterine Cervix and agreed to propose the following modification of the classification adopted by the Health Organization of the League of Nations in 1937:

Stage O

Carcinoma in situ—also known as preinvasive carcinoma, intraepithelial carcinoma and similar conditions.

Stage I

The carcinoma is strictly confined to the cervix.

Stage II

The carcinoma extends beyond the cervix, but has not reached the pelvic wall. The carcinoma involves the vagina, but not the lower third.

Stage III

The carcinoma has reached the pelvic wall. (On rectal examination no "cancer-free" space is found between the tumor and the pelvic wall.) The carcinoma involves the lower third of the vagina.

Stage IV

The carcinoma involves the bladder or the rectum, or both, or has extended beyond the limits previously described.

The name proposed by the Committee for this classification is the Inter-National Classification of the Stages of Carcinoma of the Uterine Cervix.

A New Low in Maternal Mortality

THE new all time low in maternal mortality brings to mind vividly the old days when the relative merits of doctor and midwife, or of home and hospital were discussed in the medical journals. The Bureau of Medical Economic Research of the American Medical Association announces that the provisional 1949 maternal death rate for the entire United States, counting all maternal deaths among all classes and groups in the entire country, was closer to 1.0 than 0.9. Some state and city health departments used the fifth and some the sixth revision of the International List in coding the causes of deaths in 1949 so that the official mortality rate for this transition year may never be known. But this we know, that for the first time in history the maternal mortality for any large nation has ever been below 1 maternal death per 1,000 live births.

Many of us will recall the discussions of maternal mortality that took place twenty-five years ago. There was a great deal of it and it fell into three patterns: (1) a comparison of the results obtained by midwives and doctors; (2) a comparison of the results obtained in special maternity hospitals and general hospitals; and (3) a comparison of the maternal mortality in the United States with that of other countries.

It was shown by statistics that midwives had as good results as doctors, if not better. Much printer's ink was wasted in showing that the doctors took care of the complicated cases. No one seemed to catch the real point which was that in both doctors' and midwives' practice there were too many preventable deaths. As to the hospitals, it was contended that the general hospital was the worst place to have a baby, the special maternity hospital the next, and the home the least unsafe place. Among the nations, sometimes Chile led with the highest maternal mortality rate and sometimes Scotland, but the United States always came second. Some of the unfavorable showing of the United States was undoubtedly due to the varying interpretation of the classification of the maternal deaths used in the several countries. The Children's Bureau sent transcripts of death certificates to foreign countries and asked them to classify them by their own rules. Invariably the maternal death rates when calculated from these reclassified certificates were less than the United States Census rates. A committee of English doctors visited the Scandinavian countries and found that in some, eclampsia was not considered a cause of maternal death but was classified with convulsions of all ages. Philadelphia furnished an example of how rates vary with the computing agency. The Philadelphia Health and Hospital Survey (1929) showed that for a period of nine years, 1919 to 1927 inclusive, the figures published by the Philadelphia Bureau of Vital Statistics were almost constantly 10 maternal deaths per 10,000 live birth births lower than the figures published by the United States Bureau of the Census.

To many medical societies these were mere academic discussions. Many state and local societies appointed committees to investigate the actual conditions. The reports of the New York Academy of Medicine in 1933 and that of the Philadelphia County Medical Society in 1934 were models for investigations elsewhere. In both New York and Philadelphia they had continuing committees that investigated each maternal death and assessed the factors responsible for that death. In 1928 the Medical Society of Virginia appointed a Maternal Welfare Committee with Dr. Greer Baughman as chairman. This committee established a traveling postgraduate course in obstetrics, which ran for several years and met with a very favorable reception from the doctors all over the state. The committee of The Medical Society of Virginia then joined with a similar committee from the State Health Department. This joint committee endeavored to establish prenatal clinics in every county in Virginia. The clinics were manned by local doctors and the Health Department furnished the nurse and the forms. By 1941, 99 such clinics were in operation, whereas previously there had been only six. Every maternal death was investigated by doctors from the Health Department, and these deaths were discussed by the whole committee. Since, in most cases, the attendant could not attend the meeting to present his or her side, there was no indentification of either the attendant or the hospital involved. Cases illustrating common errors along with the discussion by the Committee, were published from time to time in the Monthly. Drs. Carson, Shamburger and Winn who represented the Health Department, proved to be real diplomats, for not only did they gather the information for their reports, but they created a spirit of cooperation in improving maternal care.

Another project that our committee sponsored was an emergency hospital care program for medically indigent mothers. This was administered by the State Department of Health. The money was furnished by the Children's Bureau and the selection of the cases was done by the local doctors manning the prenatal clinics. Results of all this work and cooperation did not show at once, but in Virginia there has been a steady decline in maternal deaths since 1935 until now the rate is 1.0.

This nationwide reduction of maternal mortality to an unbelievably low rate of less that 1 per 1,000 live births is an accomplishment of which Organized Medicine may well be proud. There were a number of factors involved. We have better ways of treating infection. The availability of blood transfusions undoubtedly played a part. The public has become aware of the value of prenatal care, and more and more mothers are being delivered in hospitals. Finally, there has been a steady improvement in both undergraduate and postgraduate training in obstetrics. Since 1934 there has been a steady drop in mortality incident to childbirth all over the nation. In 1948 the rate had reached 1.2 and now it is less than one per 1,000 births.

Bibliotheca Obstetrica

Albucasis, 1060-1122

GYNAECIA, sive affectus aliquot mulierum gravissimos, praecipve qui ad chirurgiam spectant, curandiratio: ex praestantissimi inter Arabes medici Albucasis medendi methodi libro II. In Gynaeciorum hoc est de mulierum affectibus, Basil 1566. pp. 187-214.

Albucasis was a native of Cordova. His great work was founded on Paul of Aegina. It was one of the earliest works to show pictures of surgical and obstetrical instruments. He mentions the posture that now goes by the name "Walcher position."

President's Message

HOTEL accommodations for those attending our annual State Society meetings is getting to be quite a problem, due to the fact that everyone tries to get accommodations in the convention selected hotel, which is impossible.

A few years ago, when the attendance was below three hundred and very few wives accompanied their husbands, any of the cities in the State could take care of the convention with ease; in recent years the attendance has increased by leaps and bounds. At the recent meeting in Roanoke, over five hundred doctors registered, a large percentage were accompanied by their wives. We hope the ladies will continue to come for they add much life, pleasure and charm to the meetings.

A few years back, we had around twenty-five commercial exhibitors, at present we are running around sixty exhibitors each year. We hope they will continue to attend in increasing numbers as we need them and they need us; however, since it is the doctors' convention, the Society feels that the members should be given preference in hotel accommodations.

There has been some difficulty in the past in getting a quorum for the business meeting of the House of Delegates for the simple reason that they were quartered in different hotels. The Society feels that those who attend to the business affairs should be housed in the headquarters or convention hotel whenever possible.

At a meeting of the Council in June, 1950, a motion was made and unanimously adopted, which reads: As soon as the next meeting place, and date is decided upon, the secretary should be empowered to freeze enough rooms to care for all officers, office personnel, councilors, expected delegates and invited guest speakers. He is also to instruct the hotel management not to accept any reservations from others until this group has been adequately provided for. In order to make this plan workable, the secretary must know the names and addresses of *all* the delegates not later than November 15th of each year. Therefore, we request each local or component society to elect their delegates as soon after the annual meeting as possible, preferably in October, and send the list to our secretary at the Richmond office. When this plan gets well organized and in full operation, we feel that the Society's meeting will run much more smoothly and there will be fewer complaints about hotel reservations. We solicit the patience and cooperation of the entire membership in helping to put this plan into effective operation.

The next annual meeting of the Society will be held October 7-10, 1951 inclusive, at the Cavalier Hotel, Virginia Beach, and the Gay Manor, two blocks away, but on the Ocean front.

October is the most delightful and beautiful month in the year to be at the Beach, so we hope as many members will attend as possible and bring their wives. If you are not so fortunate as to get suitable accommodations at the Cavalier or Gay Manor, there are several smaller hotels on the Beach sufficient to care for all.

C. L. HARRELL, M.D.

SOCIETY PROCEEDINGS

The Northern Neck Medical Association

Held its fall meeting October 26, at Tides Inn, Irvington.

New officers elected are Dr. Lee S. Liggan, Irvington, President; Dr. Melvin Lamberth, Kilmarnock, President-Elect; Dr. Richard T. Arnest, Warsaw, Vice-President and Dr. Paul C. Pearson, Warsaw, Secretary-Treasurer.

A committee was appointed from the Association to work out plans with a committee from the Mid-Tidewater Medical Society for holding joint periodic scientific lectures on subjects which would be of practical importance to the general practitioners. Those who are members of The American Academy of General Practitioners, who are required to attend scientific meetings or post-graduate lectures to retain their membership, would be given credit for attending these meetings. All members and guests of both societies are urged to attend when the lectures are given.

Dr. Motley Booker was appointed by the President as advisory member to the Woman's Auxillary of the Northern Neck Medical Association. After a cocktail party, given by Van Pelt & Brown, luncheon was served. Many Richmond and Fredericksburg physicians were present.

The scientific portion of the program included papers given by Dr. Hudnall Ware, on the Recent Trends in Treating Toxemia of Pregnancy; Dr. Paul D. Camp on Coronary Heart Disease and Its Treatment, by Dr. Carrington Williams, Sr., on Benign Lesions of the Breast.

The meeting adjourned at 5:00 P.M. in time for a cruise on the yacht "Sun Tan". The next regular meeting will be held the 4th Thursday in May 1951.

Paul C. Pearson,
Secretary-Treasurer

The Williamsburg-James City County Medical Society

Held its regular meeting at the Eastern State Hospital, Williamsburg, November 10, Dr. Eleanor Beamer-Maxwell presiding. This followed dinner in the Officer's dining room at 7:00 p.m.

Miscellaneous business included the reading by the Secretary of an exchange of correspondence between Dr. Beamer-Maxwell, the President, and Colonel Asher W. Harman, State Director of Selective Service. This was in regard to a news item appearing in the Richmond newspapers inferring that some doctors in the Williamsburg-James City area had failed to register for Selective Service as required by law. Colonel Harman stated that they had no knowledge of any such delinquent doctors and had not authorized the publication of any such statement.

Dr. Joseph E. Barrett reported on the business meetings of the Medical Society of Virginia, which he attended in Roanoke as delegate for the local society.

The Secretary announced the coming meeting of the Southern Psychiatric Association in Williamsburg, November 27th and 28th, and asked for an appropriation of funds with which to join the Virginia Neuropsychiatric Society in the cocktail party in honor of the visiting doctors. The necessary funds were authorized.

The scientific program was a presentation of x-ray films by Dr. Gordon Keppel, College Physician. This was a series of interesting and informative films, which had been collected from the files of the Bell Hospital, the College Infirmary, and the Eastern State Hospital. These covered a wide range of subjects, including orthopedic, surgical, and medical cases, and elicited considerable discussion from the audience.

Dr. Granville L. Jones is secretary of the Society.

Richmond Academy of Medicine.

The Academy held its annual meeting, followed by the Christmas dinner, in the Academy building on December 12, with Dr. Henry W. Decker presiding. At this meeting, Dr. Kinloch Nelson was installed as president, and Dr. Guy W. Horsley was named president-elect for 1951. The vice-presidents are to be Dr. Edwin L. Kendig, Jr., and Dr. H. St. George Tucker. Dr. E. E. Haddock and Dr. M. Morris Pinckney were made new members of the board of trustees.

The Warwick County Medical Society,

At its November meeting, elected officers to take over the society's work at the January meeting; President, Dr. William H. Woodson, succeeding Dr. George Grier Smith, III; vice-president, Dr. Joseph W. Carney (former secretary); and secretary-treasurer, Dr. O. Watts Booth. All are of Newport News.

The December meeting was in the form of an oyster roast for the doctors and their wives at Mills Wharf in Seaford.

The Society meets every month from September through May, and every other month has a dinner meeting at the James River Country Club with an out of town speaker. The other meetings are informal, usually having clinical pathological conferences of local cases. The visiting speakers during the past year were Drs. Morris Pinckney and A. Stephens Graham of the Medical College of Virginia; Drs. Edward S. Ray and Frank P. Coleman, also of the College; Dr. Joseph H. Burchenal of New York; Dr. Joseph E. Hollander of Philadelphia; and Dr. Reno Porter of Richmond.

Roanoke Academy of Medicine.

The Academy held a dinner meeting at Hotel Roanoke on December the 4th, with Dr. E. G. Gill presiding. Invited speakers for this meeting were Dr. F. Tremaine Billings of Vanderbilt University, Nashville, whose subject was "Present Status of Antibiotic Therapy", and Dr. Edward J. O'Brien of Wayne University, Detroit, who spoke on "Our Ostrich-Like Attitude Toward Tuberculosis and BCG Vaccination".

Lynchburg Academy of Medicine.

At the meeting of the Academy on November the 13th, Dr. Proctor Harvey of Georgetown University Medical School addressed the group on the subject "Don't Throw Away Your Stethoscope".

NEWS

Announcement of Symposium on Rehabilitation of Alcoholics.

The Division of Alcohol Studies and Rehabilitation of the State Department of Health has arranged a second Symposium on Rehabilitation of Alcoholics at the Baruch Auditorium, Medical College of Virginia, January 16 and 17, 1951. There will be an evening session on January 16 beginning at 8:00 p.m. On January 17 there will be both an afternoon session at 2:00 p.m. and an evening session at 8:00 p.m. The Symposium is designed to be of particular interest to physicians, and others who are concerned with the problem of alcoholism. It will be open to the public.

Outstanding authorities have been secured to participate in the discussions of the various aspects of the alcohol problem. These authorities include Dr. Oskar Diethelm, Psychiatrist-in-Chief, Payne-Whitney Psychiatric Clinic, The New York Hospital, New York; Dr. H. B. Mulholland, Director, Department of Internal Medicine, University of Virginia, Charlottesville, Virginia; Dr. Joseph Hirsh, Author, and Executive Secretary, Committee on Problems of Alcohol, National Research Council, Washington, D. C.; Dr. R. Finley Gayle, Jr., Professor of Psychiatry and Neurology, Medical College of Virginia, Richmond, Virginia, and Dr. Merrit W. Foster, Jr., Associate in Psychiatry, Medical College of Virginia, Richmond, Virginia, will collaborate in the presentation of a discussion of treatment.

Talks by Dr. E. C. Hoff, Medical Director of the Virginia program and Kenneth F. Lee, Director of the Division, are scheduled. Discussion of some of the aspects of the problem will be presented by a member of Alcoholics Anonymous. Dr. J. Lyn Elder, Associate Pastor of the First Baptist Church, Richmond, Virginia, will discuss the contribution of pastoral counseling.

There will be reports of the basic research studies that are being carried out under the supervision of Dr. Harvey B. Haag and Dr. John C. Forbes at the Medical College of Virginia.

All persons interested in the problems posed by alcoholism are invited to attend.

American College of Surgeons.

The sectional group of the College, in which is included Virginia, will hold its annual meeting at the Homestead, Hot Springs, February 26 and 27. Dr. Claude C. Coleman, chairman of the Committee on Arrangements, extends a cordial invitation to members of the medical profession in this State to attend. Attendance will be largely from Alabama, Florida, Georgia, Kentucky, North and South Carolina, Tennessee, Virginia, West Virginia, and Washington, D. C.

The program for this meeting will include new surgical motion pictures, a special program on

trauma, a cancer symposium, and panels or papers on The Effect of Vasodilator Drugs on the Circulation of the Extremities, Chest Injuries, Fractures about the Ankle Joint, Neck Surgery, Peptic Ulcer, Cancer of the Tongue and Mouth, Cancer of the Cervix, Cancer of the Lung, injuries to the Biliary Ducts, Ulcerative Colitis, Surgical Aspects of Acute Head Injuries, Rehabilitation of Severely Burned Patients by Plastic Surgery, Emergencies Arising During Operation, and Surgery of the Colon, Anus and Rectum.

A five-dollar registration fee will be required, except from Fellows and members of the Junior and Senior Candidate Groups of the College, and interns and residents, but it is believed that the physician or surgeon in practice will find the program worth many times the registration fee.

The Stuart McGuire Lecture Series

And Symposium on Diseases of the Kidney and Related Problems was held at the Medical College of Virginia, November 29 through December 1. Dr. Homer S. Smith of New York University College of Medicine was the McGuire lecturer. The visiting lecturers for the symposium were: Dr. Stanley E. Bradley, Dr. Henry T. Randall, Dr. John V. Taggart and Dr. Howard C. Taylor, Jr., of Columbia University, New York; Dr. Charles H. Burnett of University of Texas; Dr. Willard E. Goodwin and Dr. William W. Scott of Johns Hopkins University; Dr. Paul Kimmelstiel of Charlotte, North Carolina; Dr. Henry D. Lauson and Dr. Ephraim Shorr of Cornell University; Dr. Elaine P. Ralli of New York University; and Dr. J. Edwin Wood, Jr., of University of Virginia.

The Petersburg Medical Faculty,

At its annual meeting in December, elected Dr. E. L. McGill as president for the coming year, succeeding Dr. Thomas B. Pope. Elected as vice-presidents are Dr. Carney C. Pearce and Dr. William B. McIlwaine, and as secretary-treasurer Dr. Glenn W. Phipps. Dr. Fletcher Wright was named chairman of a committee to arrange a series of scientific programs.

Henrico County Health Director.

Dr. Frederick Arthur Bleese of Hampton, retired Army brigadier-general, has been appointed Henrico County health director and was to enter upon his new duties on January 2. He succeeds Dr. Robert Manton Wilson who resigned December the first.

The Southern Psychiatric Association

Held its annual meeting at Williamsburg the latter part of November under the presidency of Dr. R. Finley Gayle of Richmond. Approximately one hundred members were in attendance for the annual dinner on the first evening. At the closing session, Dr. R. Burke Suitt, of Duke University, Durham, succeeded to the presidency; Dr. O. S. Hauk, superintendent of the Central State Hospital, Nashville, Tenn., was elected president-elect; and Dr. J. E. Barrett of Richmond and Williamsburg was named chairman of the board of regents.

Dean of Medical School, Medical College of Virginia.

Dr. John B. Truslow, recently assistant dean at Columbia University College of Physicians and Surgeons, is joining the staff of the Medical College of Virginia on January 1st as dean of its Medical School. He succeeds Dr. Harvey B. Haag, resigned, who wishes to devote full time to his work in the department of pharmacy.

Dr. Thomas H. Hogshead,

Formerly of Staunton, is now a member of the medical staff of the duPont Company in Wilmington, Delaware. His offices are in the Nemours Building.

The American College of Chest Physicians

Announces a postgraduate course in diseases of the chest at Vanderbilt University, School of Medicine, Nashville, Tennessee, January 22-27. This is sponsored by the Council on Postgraduate Medical Education and the Southern Chapter with the cooperation of Vanderbilt. Further information about this course may be secured by application to the College, 500 North Dearborn Street, Chicago 10, Illinois.

American Dermatological Association.

The next annual meeting of this Association will be the Diamond Jubilee observance of its founding, and will be held at the Homestead, Hot Springs, Virginia on May 23-26. Dr. L. A. Brunsting of Minneapolis is secretary of the Association.

Dr. H. Norton Mason,

Richmond, has been appointed Surgeon-in-Chief of the Sons of Confederate Veterans by the National

Commander, this effective October 1, 1950. Dr. Mason is also Commander-in-Chief of Lee-Jackson Camp, SCV.

Medical and Surgical Symposium.

The Watts Hospital, Durham, North Carolina, will hold its eighth annual symposium at the Carolina Theater, Durham, on Wednesday and Thursday, February 14 and 15. This gives promise of an excellent program and will include a clinico-pathological conference and two panel discussions—one on Headache and the other on Respiratory Infections. In addition there are to be a number of other discussions, the speakers in all to be prominent out-of-State doctors. Arrangements are being made for lunch and dinner on both days.

For detailed information, write Dr. J. W. Woods, secretary-treasurer of the Watts Hospital Medical and Surgical Symposium.

Care Aid Urged for Korea.

CARE is appealing for funds to send relief packages from Americans to war-devastated Korea, whose people are in desperate need of food and clothing. Contributions in any amount sent to CARE for Korea, 20 Broad Street, New York 5, N. Y., or any local CARE office in this country, will be used by the non-profit agency to deliver gift packages, in the name of the donors, to destitute Korean families chosen on the basis of greatest need.

Six types of CARE packages are available: Food, underwear and socks, or woolen suiting, at $10 each; knitting wool, $13; woolen blanket and cotton fabrics, $7 each. Contributions less than the cost of a complete package will be pooled. All donors will receive a CARE receipt.

The CARE campaign was undertaken at the request of the Advisory Committee on Voluntary Foreign Aid of the U.S. Department of State and has been endorsed by President Truman.

Stuart Circle Hospital Ex-Interns' Association.

Dr. C. C. Chewning was elected president of the Association at its meeting the middle of November. Named to serve with him for the coming year are Dr. Hunter S. Jackson as vice-president, and Dr. J. E. Stevens as secretary. All are of Richmond. Highlight of the program was the Charles R. Robins Memorial Lecture by Dr. Conrad G. Collins, professor of gynecology of Tulane University. At the evening session, papers were presented by Dr. Beverley Clary, Dr. Morris Pinckney and Dr. Jackson. The ex-interns were entertained by Dr. A. Stephens Graham, Dr. Carrington Williams, Jr., and Dr. Richard A. Michaux.

Appointment by State Health Department.

Dr. F. C. Heath, who for several years has been Health Officer of Giles-Montgomery-Radford Health District, has been transferred to Fairfax County. Dr. Heath will replace Dr. H. C. Bradford who resigned recently.

The Congress on Industrial Health

Will be held in Atlanta, February 26 and 27. This is sponsored by the Council on Industrial Health of the American Medical Association, the Medical Association of Georgia, the Fulton County and DeKalb County Medical Societies. The program will include several panel discussions and round tables and will have as speakers some of the leaders in industrial health from all parts of the country. Dr. Carl M. Peterson, secretary of the Council on Industrial Health of the A. M. A., Chicago, will be glad to give information about this meeting.

"Black List" by B.M.A.

Dr. William Bickers, formerly of Richmond, but temporarily in Paris, has sent the editor an interesting clipping from a British newspaper as follows: "The British Medical Association has decided to 'black list' Durham County Council. This means that the council will be added to the list published weekly in the *British Medical Journal* of local authorities which require employees to be members of a trade union or other organization.

"In addition, the council will be added to the weekly 'Important Notice' which asks doctors not to apply for appointments with named councils without first consulting the B.M.A. secretary, Dr. Angus Macrae. Advertisements by the council will not be accepted by the journal."

The Virginia Radiological Society,

At its annual meeting in Roanoke, during the State Society meeting, elected the following officers for the coming year: President, Dr. W. P. Gilmer, Clifton Forge; vice-president, Dr. J. Lloyd Tabb, Richmond;

and re-elected Dr. P. B. Parsons of Norfolk as secretary-treasurer. This society will hold another meeting in the Spring, the time and place to be announced.

American Medical Association.

There was a large attendance at the Clinical Session of the Association in Cleveland, December 4-7. Dr. Dean Sherwood Luce of Canton, Massachusetts was named "family doctor of the year". Another important action taken by the House of Delegates of the Association was the launching of a brand new multimillion dollar campaign to help medical schools train future doctors. Virginia's two medical schools will benefit by this plan.

Louisa County Memorial Medical Service Center.

Ground was broken on November 28 for this medical center, said to be unique in the United States. Speakers on this occasion included Dr. H. B. Mulholland of the University of Virginia, H. M. Woodward, president of the board of trustees of the center; Dr. H. S. Daniel, representing the County's doctors; and Carl H. Nolting, chairman of the board of supervisors, representing the citizenry. Excavation started the first week in December and it is expected that the Center will be ready for use in September.

New Books.

Below are listed some of the newer books in the Tompkins-McCaw Library of the Medical College of Virginia, which are available to our readers under usual library rules:

Advances in genetics. Vol. 3, 1950.
Billig & Loewendahl—Mobilization of the human body.
Burnet & Fenner—The production of antibodies. 2nd edition.
Cleckley—The mask of sanity. 2nd edition.
Haun—Psychiatric sections in general hospitals.
Krupp *et al.*—Physician's handbook. 6th edition.
Kuntz—The neuroanatomic basis of surgery of the autonomic nervous system.
Maliniac—Breast deformities and their repair.
Meyer—Kinetic bandaging.
Miles & Pirie—The nature of the bacterial surface.
Parsons & Duke-Elder—Diseases of the eye. 11th edition.
Patterson—An explanation of the biologic functions of the body in health and disease.
Portmann—Clinical therapeutic radiology.
Samuels—Management of peripheral arterial diseases. Revised edition.
Selye—The physiology and pathology of exposure to stress.
Spurling—Practical neurological diagnosis. 4th edition.
Sunderman & Boerner—Normal values in clinical medicine.
Titus—The management of obstetric difficulties. 4th edition.
Ward & Hendrick—Diagnosis and treatment of tumors of the head and neck.
Wartenberg—The examination of reflexes.
Wells—Clinical pathology, application and interpretation.
Wolf—The urinary function of the kidney.

Wanted Contract Practice.

Physician desires contract practice in either industrial section or coal mining area with guaranteed salary and opportunity for developing private practice. Give particulars in first letter. Address "Contract Practice", care Virginia Medical Monthly, 1200 East Clay Street, Richmond. (*Adv.*)

Wanted—

General practitioner to work with established clinic hospital group in small Virginia city. Partnership available after one year. Address "Clinic", care this journal, 1200 East Clay Street, Richmond 19, Va. (*Adv.*)

For Rent—

Doctor's or dentist's office available immediately, corner of Harrison and Franklin Streets. Call 5-4397, Richmond. (*Adv.*)

OBITUARIES

Dr. Charles Milton Clendenen,

Beloved physician of Damascus, died September 29, 1950, at the George Ben Johnston Memorial Hospital in Abingdon. Dr. Clendenen was born in 1883 in Lee County and moved to Washington County at an early age. He was educated in the public schools of Washington County and at King College, Bristol, Tennessee. He received his degree of doctor of medicine from the University College of Medicine, Richmond. He began the practice of medicine in the coal fields of West Virginia, coming to Damascus in 1910. For many years he traveled

by horseback answering calls over a wide rural area, administering with untiring devotion to his patients day and night. Dr. Clendenen had a fine personality and a high regard for ethics. He brought to his patients the best professional services of the general practician. He was a most competent and faithful doctor and friend to the public. Dr. Clendenen was very active in civic and business affairs, being a charter member of the Citizens Club and president of the Bank of Damascus. He belonged to the Masonic Lodge and was a trustee of the Methodist Church. He was married in 1938 to the former Helen Boucher of Damascus who survives him. He is also survived by three sisters.

Dr. Clendenen was a valued member of the Washington County Medical Society and all who knew and worked with him respected and admired him. We who belong to the medical profession along with his countless friends mourn his loss and therefore adopt this resolution of sympathy in memoriam:

BE IT RESOLVED that in the passing of this member our Society has sustained a profound loss as well as the respective community in which he lived and worked so unceasingly;

BE IT RESOLVED that the members of this Society express their sincere sympathy to Dr. Clendenen's family in their bereavement;

BE IT FURTHER RESOLVED that a copy of these resolutions be spread on the minutes of our Society, a copy sent to the VIRGINIA MEDICAL MONTHLY and a copy to his widow.

JAMES M. SUTER, *Chairman*
C. FREDERICK JOHNSTON
RECTFR S. LEGARDE
Committee

Dr. Rowland H. Walker, Jr.,

Of Norfolk, died in Elizabeth, New Jersey, November 27, following a heart attack. He was a native of Norfolk and forty-one years of age. Dr. Walker graduated in medicine from the University of Pennsylvania in 1934 and, after some time spent in Martinsville, moved to Norfolk to practice in 1947. He was a widely known consultant of the Hubard Diabetic Foundation. His wife and two daughters survive him.

Dr. Claude R. Robinson

Of Max Meadows died in September 1950 at the age of eighty. He graduated from Baltimore University School of Medicine in 1892 and later took post-graduate work at the University of Virginia. He was a member of the Southwestern Virginia Medical Society and was made a Life Member of the Medical Society of Virginia in 1948.

Dr. James W. Miller,

Pembroke, died September 1, 1950, at the age of seventy-six. He graduated in medicine from the former University College of Medicine, Richmond, in 1902, and was a member of the Southwestern Virginia Medical Society and the Medical Society of Virginia. He is survived by his wife and four children.

Dr. Hawes Campbell, Jr.,

Of Alberta, was found dead in his room November 22, apparently the result of an over-dose of sleeping medicine. He was forty-five years of age and a graduate of the Medical College of Virginia in 1932. He is survived by two children, in addition to his mother and several others.

Dr. Susan A. Price,

Retired physician of Williamsburg, died Novem-15 following a heart attack. She was seventy-seven years of age and pioneer woman physician of Williamsburg. She was a graduate in medicine from the Woman's Medical College of Baltimore in 1907 and had also served as physician to several girls colleges for a time. A sister and two brothers in Marlinton, W. Va., survive her.

Dr. William Burton Fowlkes,

Retired physician of Danville, died December 4. He was a native of Pittsylvania County and graduated in medicine from the Medical College of Virginia in 1914. He was with the medical corps of the Navy during World War I. Dr. Burton was for sometime a member of the Medical Society of Virginia. His sister and two brothers survive him.

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GUEST EDITORIAL

Epilepsy, a Reasonable Problem

THE misunderstanding and superstition governing epilepsy since ancient times has begun to give way to order. It is estimated that one in 200 of the general population is or has been subject to seizures. It is thought that 10 per cent of the general population has a cerebral dysrhythmia and theoretically carries a predisposition to seizures or allied disorders. In the campaign against epilepsy, as expressed by Lennox, "There are three main aspects of this question: Education of the public, treatment of the patient, and attainment of new knowledge." In this light some of the many ramifications in the field of epilepsy are reviewed for the general medical physician.

Epilepsy is not a disease. To have epilepsy there must be a convulsion. Epilepsy is thus a symptom. The understanding as presented by Hughlings Jackson describes the seizure as being a sudden excessive paroxysmal neuronal discharge. Electroencephalography adds the understanding that the neuronal discharge is electrical. A seizure occurs independent of will and if bilateral there is a loss of consciousness.

To diagnose a case of epilepsy is not enough. What is the focus and what is the cause is desired. This necessitates classifying the epilepsies. The clinical description of convulsions gives understanding to anatomical localization. Thus the events at onset and the aura preceding the seizure become important. For interpretation a knowledge of function of the anatomical parts of the brain is necessary. Chronologically age is important in understanding etiology. Seizures beginning before age two are commonly due to birth injury, degeneration, or some congenital malformation. Seizures with onset between two and twenty years are cryptogenic or presumptively due to birth injury, trauma, infections, etc. Seizures beginning at age thirty to forty are usually due to trauma, neoplasms, infections, etc. When seizures appear after age forty a neoplasm must be ruled out, although traumas, arteriosclerosis, hemorrhage and syphilis may be causes. To diagnose a seizure descriptively as grand mal, psychomotor, petit mal, or Jacksonian, it must also be grouped as symptomatic, focal, cryptogenic, or idiopathic. Symptomatic or focal epilepsy has a known etiology, pathological basis, or specific toxic cause. The idiopathic or essential epilepsy has a self-originating, unknown cause, or is called cryptogenic epilepsy to denote an obscure origin. Idiopathic epilepsy has a strong hereditary component. Petit mal seizures remain as the one true type of idiopathic epilepsy, seizure without known pathological association.

The study of seizures is aided by history, neurological examination, glucose tolerance tests, spinal fluid analysis, x-rays of the skull, pneumoencephalography, electroencephalography, and other indicated procedures.

Electroencephalography was made possible by Hans Berger in 1929. The EEG machine, utilizing electrodes placed on the skull, the cathode tube, and a magnetic field to move ink writing pens, records the brain wave electrical potentials. Electroen-

cephalography is a neurophysiological research tool, a laboratory aid in the study of convulsions, an assistance in the localization of brain tumors and seizures. The interpretation of records necessitates a technical knowledge and specialization not unlike electrocardiography. There are normal and abnormal rhythms, waves, frequencies, voltages, and discharges. There are paroxysmal cerebral dysrhythmias characteristic of epileptic seizures, or interseizure abnormalities useful in diagnosis, sometimes called sub-clinical seizure discharges. It is useful in decisions as to choice of therapy and prognosis on a basis of brain wave pattern. It offers a laboratory guidance in statistical studies in epilepsy concerned with eugenics, heredity, marriage, trauma, other diseases with seizures, and allied disorders.

The treatment of seizures may be pharmacological or surgical. The important anti-epileptic drugs of choice are phenobarbital, 5-5-diphenyl-hydantoin, Diphenyldantoin, ("Dilantin sodium"), and 3,5,5-trimethyl-oxazolidine-2, 4-dione, (Trimethadione: "Tridione"). A word of warning in the use of "Tridione", 3,5-dimethyl-5-ethyl oxazolidine-2, 4-dione ("Paradione"), Phenacetylurea ("Phenurone"), and 3-methyl-5-phenyl-5-ethyl-hydantoin (Mesantoin), in that they necessitate a specific knowledge as to toxic manifestations, a close supervision, and repeated monthly hematological examinations.

There are basic books for adequate reference by Temkin, Lennox, Penfield and Erickson, Penfield and Rasmussen, Gibbs and Gibbs, and the Proceedings of the Association for Research in Nervous and Mental Disease, Vol. VII, Vol. XXVI, and Vol. XXVII, are devoted to epilepsy, convulsive disorders and the cerebral cortex. There exists the American Epilepsy League, Inc., with an annual publication, "Epilepsia", containing reviews of all medical articles concerned with epilepsy. The League membership is open to all.

The interest and cooperation among physicians has led to a better understanding, diagnosis, therapy, and research to take away the stigma and offer solutions in the problem of epilepsy.

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TUBERCULOSIS AND PREGNANCY

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Tuberculosis complicating pregnancy, and *vice versa,* has been, and still is, a very much debated subject. There does not appear to be any definite consensus of opinion. Most of the articles that have been written are by the phthisiologist, who treats the subject entirely from his view point, or the obstetrician, from his side; neither have tried to consider the two conditions together.

Generally speaking, a hundred years or more ago pregnancy was believed to exert a favorable influence on tuberculosis; so much so, that young married women, found to have tuberculosis, were advised to become pregnant. Twenty-five to fifty years ago the reverse was the accepted belief. In his book published in 1908, F. M. Pottenger[1] states that if any woman with active tuberculosis should become pregnant, she should have a therapeutic abortion before the third month. But then, in his book published in 1948, just forty years later, the word pregnancy is not mentioned in the index. The pendulum is rapidly swinging back! Some phthisiologists say treat them all and give them a chance—some obstetricians claim there is no real excuse for a therapeutic abortion for tuberculosis alone. To be sure, there must be a middle road where each and every case can be studied and handled according to the merits of the individual.

One will have to admit that collapse therapy has revolutionized the treatment of tuberculosis in all forms, both complicated and uncomplicated. There may be another revolution on the way in the use of antibiotics; one would not venture to speculate at the present time.

A brief review of the literature reveals the following views: Francis M. Pottenger, in his book published in 1908, states "a woman with quiescent tuberculosis may become pregnant and give birth to a healthy child. On the other hand, she may break down after the delivery. A woman with active tuberculosis, who becomes pregnant, runs a great danger of having the disease become more acute; however, she may improve for a while, but after delivery, when the disease becomes more acute and spreads, she will go rapidly down-hill. One is justified in teaching contraceptives in such cases and the question of therapeutic abortion should be considered."

In Goldberg's[2] book, published in 1939, an entire chapter is devoted to the study of tuberculosis and pregnancy, but concludes by saying a therapeutic abortion is rarely justified.

Tucker and Bryant[3], upon studying a thousand admissions in a lying-in hospital in Chicago, all of whom were colored, found eighteen cases, or 1.8 per cent to have tuberculosis on admission; three of these cases died following delivery, and one died seven and one-half months after delivery. In checking a similar number of white cases they found 1 per cent to have clinical tuberculosis. If an x-ray had been made of the chest at the time of the first prenatal examination, these deaths might have been avoided. In 1916, Norris stated that pregnancy definitely shortens the life span of tuberculous guinea pigs. In 1917, Theobold Smith stated that in cattle, parturition is frequently followed by a generalization of a local tuberculosis, with speedy decline and death.

David Cooper[4], in 1945, stated that in Philadelphia 20 per cent of the deaths among women in the child-bearing age was due to tuberculosis. He reports a case in a girl twenty-six years of age who became pregnant. She had stated that six years previous she was told she had a healed spot on her lung. After delivery, she developed acute tuberculosis and died. Yet he states there is no justification for the interruption of pregnancy!

De Lee and Greenhill[5], text 1937, stated "any case of advanced tuberculosis which does not respond to treatment is considered for a therapeutic abortion. Women with an active tuberculous lesion should be advised not to conceive because pregnancy may shorten their lives."

The modern treatment of pulmonary tuberculosis, as collapse therapy, has saved the lives of many women and prolonged the lives of many more.

Ornstein and Epstein used collapse therapy in eighty-two tuberculous pregnant women and reduced the mortality to 12.2 per cent. They do not feel that pregnancy has any influence on the course of pulmo-

*Read before the combined Interns and Resident Staff of the Naval Hospital, Portsmouth, Va., April 27, 1950.

nary tuberculosis. Cutler reported twenty-six women who, following collapse therapy, had forty-eight pregnancies and gave birth to forty children. He feels that collapse therapy has definitely minimized the risk in such cases.

Friedman and Garber[6], of Birmingham, 1946, stated that pregnancy exerts little or no influence on the course of pulmonary tuberculosis.

Schaefer[7], in 1947, reported a group at Sea View Hospital, between 1920 and 1930, in which the pregnant group had a mortality of thirty-four per cent as compared with a non-pregnant group of thirty-three per cent. Then, from 1932 to 1939, when collapse therapy was instituted, the rate dropped to 1 per cent. He advocates the immediate termination of the pregnancy in all cases of caseous pneumonic disease with cavity formation, discovered in the first three months. If discovered after three months, disregard the pregnancy and treat the disease as if the pregnancy were not present.

I feel this is good sound advice, but one must remember that Sea View is a free institution serving the City of New York; it is abundantly staffed by experts, both medical and surgical. When a patient is admitted, she may forget her worries and remain until she is well.

In 1927, Alice M. Hill called attention to the appalling fact that only 10.6 per cent of our tuberculosis sanatoria would admit pregnant women and keep them through the pregnancy—sixty per cent would admit them for treatment until just before delivery, then they would have to go elsewhere. Thus, you find a majority of women with tuberculosis, who, becoming pregnant, face a real problem financially. Unless they are aborted, they become a care on the community and a public menace.

In 1941, Blue Ridge, our State Sanatorium at Charlottesville, opened its doors to pregnant women. All three of our State Sanatoria had refused to admit tuberculous women that were pregnant up to that date. On admission, they are sent to the OB Department of the University of Virginia Hospital for a pre-natal examination and instructions. They are then sent back to the Sanatorium where they remain on the cure until due. They are then re-admitted to the University Hospital for delivery; after discharge from the OB Department, they are re-admitted to the Sanatorium to continue the cure. The child is taken by the family.

From March, 1941, to March, 1949, twenty cases had been thus treated. Classification on discharge:

Quiescent	7
Improved	5
Unimproved	2
Still in Sanatorium	4

Two cases refused treatment after delivery.

Follow-up after delivery:

No information on twelve.

Improved 3.

One died of miliary tuberculosis two years after discharge.

Still in Sanatorium and improving 4.

The follow-up studies on these cases is most important. This is not usually done, especially by OB Departments.

C. J. Barone[8], and others, reviewed the admissions in the Elizabeth Steele Magee Hospital, of Pittsburgh, from January, 1930, to January, 1941—28,-846 patients were delivered.

One hundred and three cases were known to have had pulmonary tuberculosis, 0.35 per cent. Of this number, sixty-two cases were available for clinical study.

Seven were considered inactive; four years later, all were living and well.

Five were considered quiescent; all living and well.

Ten cases were classified as having a minimal tuberculous lesion; one died. An incidence of ten per cent.

Two had moderately advanced, but inactive tuberculosis; one died.

One case of acute tuberculosis died.

One case of unilateral moderately advanced tuberculosis. Her lung was collapsed after her first delivery; second pregnancy is still living.

Nineteen classified as bilateral moderately advanced tuberculosis; five are dead.

Sixteen cases are classified as advanced pulmonary tuberculosis; 11 are dead.—Another wealthy institution with plenty of free bed space.

The mortality rate for the patients who delivered spontaneously was 19.2 per cent. Those delivered by Caesarean section was 36.3 per cent. The mortality of those whose pregnancies was terminated in the first three months was 38.5 per cent. Sixty-one and five tenths (61.5) per cent of the sixty-two patients had moderately advanced or far advanced pulmonary tuberculosis—forty-four per cent were dead, including all types of deliveries.

Richard Torpin[9], of Birmingham, makes this state-

ment in his new book published in 1948:—"A fact too often neglected is that the non-pregnant tuberculous patient needs expert care, and pregnancy only multiplies such need."

David R. Lyman, in 1943, studied a series of cases and reports where the disease was found active before pregnancy took place—14 per cent were dead. When the diseases developed during the pregnancy, 78 per cent were dead. In those cases that broke down with tuberculosis in the twelve months after delivery, the mortality rate was 60 per cent.

Fred M. F. Meixner,[10] in 1945, made this statement:—"The avoidance of pregnancy is the most important primary consideration for the tuberculous patient and her physician. No woman who has active tuberculosis should consider pregnancy for at least two years after complete arrest of her disease, or even longer if the treatment required to heal the lesion was difficult, or if there is the slightest doubt in the mind of the physician."

Another weak link in this program:—The average obstetrician pays very little attention to the chest during the pre-natal care. It is just as important to get an x-ray of the chest as it is to have a Wassermann test at the first examination. This cannot be over-emphasized!! Many early cases may be found that otherwise would be overlooked until it was too late.

The obstetrician who reports such favorable results in tuberculosis and pregnancy reminds me of the laryngologist who states he never saw a lung abscess following tonsillectomy. He rarely sees the patient after being dismissed from the hospital. A pulmonary abscess usually develops, if at all, ten days to a month following the operation. The obstetrician is primarily interested in a normal delivery, to discharge the patient with as near normal pelvic organs and perineum as possible. He is not interested in what happens to the lung, and in many instances there is no follow-up study from the stand point of tuberculosis or what happens to the mother or child. If so, the information is referred to another department. Consequently, the statistics from the OB Department alone are not dependable. The reaction or breakdown in the tuberculous lesion usually does not take place under six weeks, and it may be a year following the delivery. During the pregnancy the fetus is constantly rising in the abdominal cavity, shoving the diaphragm up and putting the lung at partial rest, exactly the same effect one gets in pneumoperitoneum. After the child is born, everything drops. The lung re-expands, adding more work to an already diseased lung. In addition to this, the added burden of caring for her child and other home responsibilities saps the strength of the mother at the very time she needs it most; consequently, weeks or months later, when the body can no longer stand the strain, the old tuberculous lesion opens up, there is a re-activation of the disease which, at times, spreads like fire.

A good rule to follow in cases with women who are found to have tuberculosis is this:—Advise them not to marry until the disease is arrested; if married, advise them to avoid pregnancy until the disease is apparently arrested.

Dr. G. A. Simpson[11], of Montreal, Quebec, reported 110 cases with tuberculosis.

I—Inactive pulmonary tuberculosis

Remained inactive	48 cases or 86.4 per cent
Became active	6 cases or 13.6 per cent

They did not say how long after delivery these figures were complied.

II—Active pulmonary tuberculosis

Became inactive cases	8 cases or 24.2 per cent
Remained active cases	12 cases or 36.4 per cent
Died	13 cases or 39.4 per cent

They feel that the first pregnancy with tuberculosis is not a great risk; but repeated pregnancies at close intervals is dangerous. Child rearing is worse than child bearing!

Therapeutic Abortion with Tuberculosis, Thirty Cases

"The incidence in relation to all deliveries is 1.25 per 1,000."

"The incidence in relation to all cases of pulmonary tuberculosis in pregnancy is 27.2 per cent."

III—Inactive pulmonary tuberculosis cases

Died	0
Now active	1 or 14.3 per cent
Still inactive	6 or 85.7 per cent

IV—In cases of active pulmonary tuberculosis

Died	5 or 21.7 per cent
Still active	6 or 26.1 per cent
Inactive	12 or 52.2 per cent

To summarize these thirty-three patients with active disease, 75.8 per cent were either dead or still had active disease.

Of the thirty patients who had therapeutic abortions, 40 per cent were dead or still active and 60 per cent inactive.

The question arises: If you had a pregnant woman with tuberculosis, what would you do? When should a therapeutic abortion be performed? First of all, the mother has the *final say.* Without her consent, *nothing can be done.* Secondly, two physicians must agree, the medical man and the surgeon. After careful examination and consideration, the doctors decide in the best interest of the mother's health and safety. And if she is to be aborted, both the wife and husband must sign the chart before the operation in order to make it legal. Even then, it cannot be performed in a Catholic Institution.

How is one to reach this conclusion? One should approach the subject from three angles:

1. Scientific or medical;
2. Public health;
3. Socio-economically.

There are certain types of cases on which we all practically agree should be aborted if recognized before the third or fourth month:

The far advanced active case;

Those with cavity and in the exudative stage;

Hemorrhage cases;

Laryngeal and kidney complications;

Any case with positive sputum.

On the other hand, minimal, early and moderately advanced cases may safely go through their pregnancy if in competent hands, and if they are willing to stick strictly on the cure, preferably in a tuberculosis sanatorium, until the time of delivery. Some cases with an open cavity may under-go pregnancy provided that the lung can be adequately collapsed, and that she remains on the cure. Pneumothorax, once started, should be continued for at least two years. If a patient while taking pneumothorax should become pregnant and wishes a child, all other things being equal, she may be carried safely through her pregnancy; but the pneumothorax treatment should be continued for at least a year after delivery.

In no cases should a patient with pulmonary tuberculosis be permitted to *nurse* or *care* for her child. The drain and strain on the mother is too great. The chances of infecting the child are almost 100 per cent.

It has been stated that a suppression of the hormones, as the stopping of ovarian function, has a beneficial effect on pulmonary tuberculosis; but this has not been proven. We know that often young girls with pulmonary tuberculosis will stop menstruating for months—"quite embarrassing at times." When the patient regains her health and strength, menstruation will be re-established without treatment. Whether this be due to a toxic condition or ovarian suppression, we do not know; it may be similar to the condition that goes on during pregnancy. I always felt it was one of nature's methods of preserving energy and metabolism to be used in a fight against the disease and in helping to restore body function.

It is also true that there are other conditions besides the medical and scientific side to be considered in tuberculosis and pregnancy:

1. The home and surroundings;
2. Financial set-up;
3. The ability to live and employ proper help.

It is not fair to the family or to the community to tell a woman with tuberculosis that she can go through with a pregnancy when she is unable to pay her way at a sanatorium or to employ help at home. She becomes a menace and a care on the community during the pregnancy and a double care afterwards. To illustrate:

A colored woman, age 27, apparently in good health, entered the Norfolk General Hospital in September, 1948; she was three months pregnant. She had a positive sputum and a cavity in the lower portion of the right lung, about 4 mm. in diameter. She already had two illegitimate children which are being cared for at city expense. I advised a therapeutic abortion and sterilization. It was done, her lung was collapsed, and she was sent to the City Hospital for treatment. I was criticized by one of my colleagues, who stated that she should have been treated and permitted to go to term. However, she would have been a drain on the community the rest of her life and the three children an expense. In all probability, they, in turn, would develop tuberculosis; I did not think it fair to the community. A physician should have other responsibilities in his community and State besides scientific medicine.

I feel that every woman with tuberculosis, who becomes pregnant, should be carefully considered by both the phthisiologist and obstetrician from a medical, sociological and economical view and decided on its merits. Do not abort and release, but insist on the patient taking the cure as long as necessary. As a consultant, never charge more than your usual fee; if you do, you lay yourself wide open to criticism.

Remember, these people as a rule are in moderate circumstances and should be given financial consideration.

I feel that any woman who is pregnant, and found to have active tuberculosis, should be aborted before the third month, unless she is willing and able to stay on the cure until she has been delivered, preferably in a sanatorium. After the delivery, she should remain on the cure from six to twelve months, or for as long as necessary.

I have attempted to get information from many sources on the effect that streptomycin has on the fetus when given to the pregnant mother. Thus far, I have been able to obtain very little.

Personal Correspondence[12]:

Dr. Peck, of the Department of Pediatrics at Hopkins, sums up their limited experience in the Growth and Development Clinic by saying that, "of about four or five babies whose mothers were treated with streptomycin during pregnancy, there has been no proven toxicity or ill effect."

Dr. John Harvey, formerly of the Medical Department at Hopkins, writes that he has followed one case in which the mother was treated for three months with streptomycin for tuberculous enteritis. At the age of two, this child showed no evidence of vestibular damage.

Professor Et. Bernard[13] and B. Kreis, of Paris, France, write that "they treated fourteen tuberculous women who were pregnant and had tuberculosis with streptomycin. Streptomycin was used in 3 cases before the fourth month of pregnancy and in 11 between the fourth and seventh months. Three patients were given dihydrostreptomycin and the others streptomycin. The daily dose was 1 gram in 4 cases, 1.50 grams in 8, and 2 grams in 2; the total dose varied from 20 to 180 grams. One case had a spontaneous abortion the fifth month, occurred four days after beginning with streptomycin, and the patient died. None of the patients experienced any acute breakdown immediately after. Two of them became pregnant again without untoward incident. The tolerance to streptomycin was good. As regards the 13 children, 11 have developed normally, with no pathologic observations in the auditory system; one died within a month from mastodiditis." Et. Bernard and associates think that these results prove that streptomycin is not toxic for the fetus.

Professor Moulonguet, discussing another paper, stated that a case had been reported before the Society of Otorhinolaryngology of a case of deafness following the treatment of the child in this manner. He feels we should go slowly in the use of streptomycin in such cases.

I cannot over-emphasize the importance of the social economic condition where child-bearing and child-caring in tuberculosis is considered. Anxiety and worry play a great part in re-activation in tuberculosis.

I wish to make one statement in behalf of the use of BCG. I welcome the day when a reliable preparation of BCG will be available to those capable of using it. I feel that every infant born of a tuberculous mother should be immunized or vaccinated for tuberculosis and kept in a healthy, wholesome environment until he becomes tuberculin positive. This would be another great forward step in our tuberculosis control program. BCG is used by nearly every civilized country in the world except in the United States. Why not here?

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THE REMOVAL OF A MIGRATORY INTRAVASCULAR FOREIGN BODY FROM THE HEART

Report of a Case

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The purpose of this paper is (1) to report a case in which a metallic foreign body having lacerated and entered the right internal jugular vein, descended to the chamber of the right ventricle of the heart from which point of lodgment it was successfully removed by operation, and (2) to make, without completely reviewing the literature, brief comment concerning other reported cases of migratory intravascular foreign bodies, with especial reference to the indications for the removal of those that have come to rest within one of the chambers of the heart.

REPORT OF CASE

The patient, a 19 year old American infantryman, was wounded in action in Germany on March 15, 1945. At the time he was in a squatting position in a deep foxhole while under artillery fire and was struck by shell fragments which caused penetrating wounds of the right neck, both shoulders and right flank. He did not lose consciousness and was able to proceed for a distance of approximately fifty yards to a jeep in which he was transported to the nearest battalion aid station. En route he recalled having heard the sucking of air in the neck wound. At the aid station dressings were applied to the wounds and sulfonamides were administered orally. He was then transferred to a field hospital in the forward area where further but unspecified emergency treatment was given. Later he was removed to an evacuation hospital where, on March 16, the neck and shoulder wounds were debrided and foreign bodies were removed from the latter.

In the note describing the debridement of the cervical wound it is stated that the missile tract seemed to go through the carotid sheath which was peppered with metallic foreign bodies and dirt. Apparently both the internal and external jugular veins were lacerated, for the operator describes dividing and

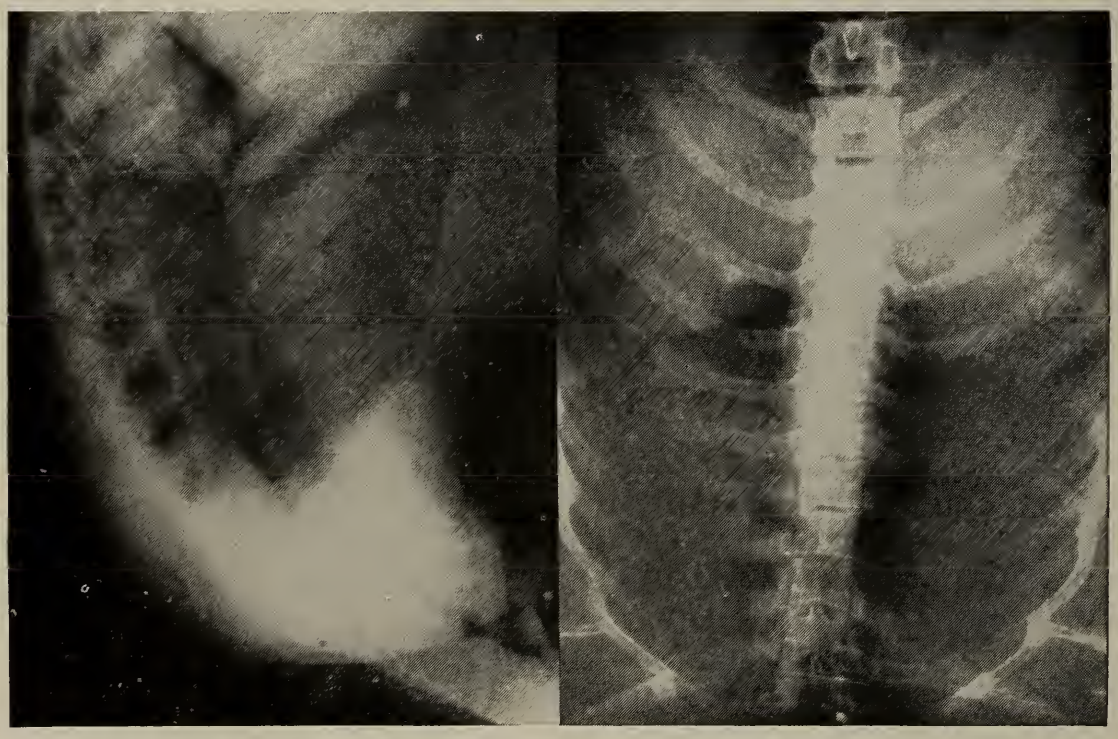

Fig. 1.—Photographs of roentgenograms (postero-anterior and lateral views of thorax) obtained March 29, 1945. Heavy penetration technic was used to show the foreign body. Note the double contoured appearance of the foreign body. This is due to motion of the heart, and is frequently observed in foreign bodies in or near the heart.

ligating them. The wound was debrided and as many of the foreign bodies as possible removed. Sulfanilamide was applied locally, a rubber drain was inserted alongside the trachea and the wound closed in layers. The patient was given 500 cc. of whole blood during the procedure.

A roentgenogram obtained prior to operation is described as showing a single metallic foreign body situated in the "lower left medial anterior chest at the level of the fifth rib anteriorly". The operator stated in a note written after the operation that he believed the foreign body to be in the right ventricle, it having entered the right internal jugular vein and descended to the heart.

On March 17 further roentgenographic studies consisting of both fluoroscopy and roentgenograms with the patient in various positions were done, and a note in the record states that these showed a small "churning metallic fragment" in the vicinity of the right ventricle. Its motion is described as being in harmony with that of the heart and not influenced to any degree by respiration.

The patient was transferred to a general hospital and a note dated March 18 indicates that the foreign body was "well stuck against the wall of the ventricle". An electrocardiogram was reported within the limits of normal.

The patient was evacuated through military medical channels and on March 27 arrived at a thoracic surgery center in the base section. He had been experiencing some pain in the left chest and numbness in the region of the right shoulder and neck. There were no symptoms referable to the cardiovascular system. He had been informed of the presence of a foreign body within his heart and he was worried, mentally depressed and apprehensive. He wanted the foreign body removed. Physical examination revealed that he was in an excellent state of nutrition and aside from healed scars in the region of the right neck, both shoulders and right flank, there were no visible abnormalities. A roentgenogram showed a small opaque foreign body superimposed on the cardiac shadow and situated near the apex of the heart (Figures 1 and 2). Fluoroscopic studies were made with the patient in various positions and in none could the foreign body be rotated out of the right ventricular shadow. Moreover, the movement of the foreign body was synchronous with the pulsations of the right ventricle. An electrocardiogram showed left axis deviation and was interpreted as within normal limits.

A pre-operative diagnosis of metallic foreign body situated within the chamber of the right ventricle was made. It was postulated that the foreign body was migratory in nature, having entered the vascular system by way of the right internal jugular vein from which point it descended to the right ventricle where it had lodged. A decision was reached that this foreign body should be removed.

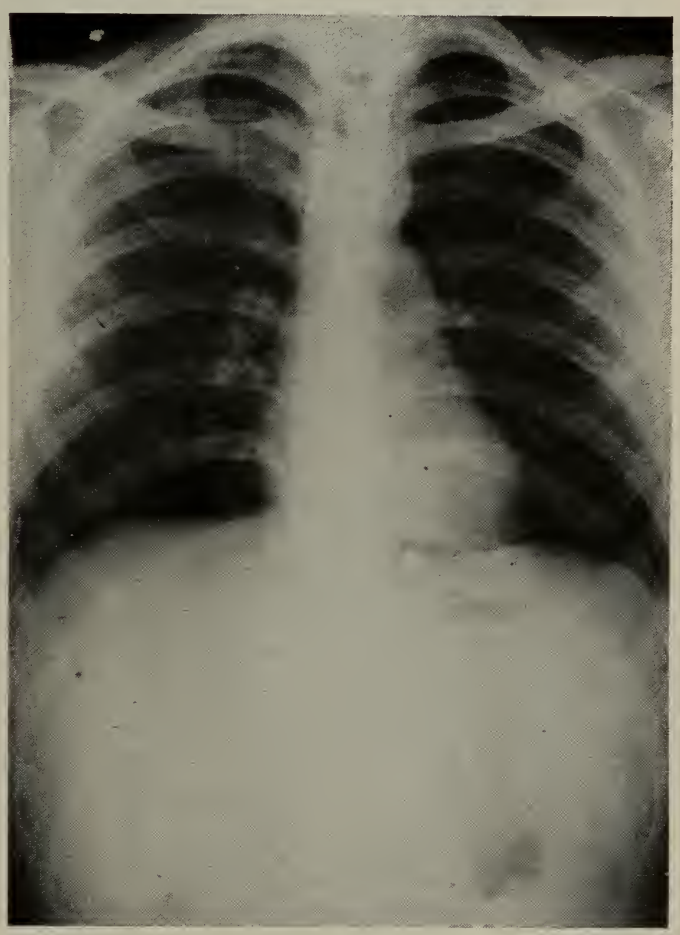

Fig. 2.—Photograph of roentgenogram (postero-anterior view of thorax) obtained April 5, 1945. Note position of foreign body in relation to the cardiac shadow. This relationship is not so apparent in the roentgenogram shown in Figure 1.

The patient was operated upon on April 17 under endotracheal nitrous oxide, oxygen and ether anesthesia. A curved incision sixteen centimeters in length was made, beginning at the left third costochondral cartilage and extending downward parallel to the left border of the sternum to the left fifth interspace. It was then directed laterally in this interspace until the midclavicular line was reached. Several fibers of the pectoral muscles were reflected laterally to expose rib and cartilage. The entire left

fifth costal cartilage was resected and the fourth divided. The internal mammary vessels in the fifth interspace were ligated and divided. That portion of the incision in the left fifth interspace was deepened to the pleura which was then incised. The pericardium was exposed and opened using an "L" shaped incision, one side of which extended laterally almost to the phrenic nerve. The pericardial sac was entirely free from adhesions. The foreign body could be palpated through either the anterior or posterior wall of the heart and lay within the chamber of the right ventricle near the apex. It appeared to be adherent to the posterior wall. The heart was stabilized by placing three sutures in the myocardium near its apex. Four silk sutures (size 00) were passed through the posterior myocardium into the ventricular cavity. They were carried completely around the foreign body and brought out through the myocardium, forming a hammock or sling in which the foreign body rested. This was done so that the foreign body would not be dislodged in removing it and also so that when the heart was opened bleeding could be controlled by crossing these sutures. After this preparation, an incision one centimeter in length was made in the myocardium immediately over the foreign body exposing one surface of it. The foreign body was then lifted from its point of lodgment and removed from the cavity of the ventricle. There was a single gush of blood which was not repeated after the four hammock sutures were crossed. Three of these sutures were tied, thus closing the defect in the myocardium. These were reinforced by sutures of fine cotton (size 40) placed between the silk sutures, but not carried through the full thickness of the myocardium. The incised edges of pericardium were loosely approximated with interrupted fine cotton sutures (size 40). The lung was re-expanded by positive pressure. The divided fourth costal cartilage was united with interrupted silk sutures (size 00). The intercostal space was closed with the same suture material. The remainder of the wound was closed in layers using interrupted fine cotton sutures. No drain was placed. No topical chemotherapeutic agent was used. Throughout the procedure the heart was bathed frequently in 5 per cent procaine solution, a total of 150 cc. being used. After the foreign body had been removed the patient made several clonic convulsive movements of the lower extremity and twitching about the mouth was noted. These ceased after the administration of 7 cc. of 3 per cent sodium pentothal solution. A transfusion had been started and 50 cc. of whole blood had been given. This was stopped immediately and no more blood administered. Whether this episode was due to transfusion reaction, sensitivity to novocaine, or to some other cause, was not determined and as far as could be ascertained, no residual abnormality resulted. The operative procedure lasted three and one-quarter hours and the patient stood it extremely well, his blood pressure at the start being 100/60 millimeters of mercury and at the finish, 110/55. The maximum pulse rate during operation was 118 per minute. The foreign body was metal, rectangular in shape, rough in outline, and measured 0.85 x 0.6 x 0.25 centimeters (Figure 3).

Following operation the progress of the patient was entirely satisfactory. His pulse, temperature, and respirations were normal throughout the post-

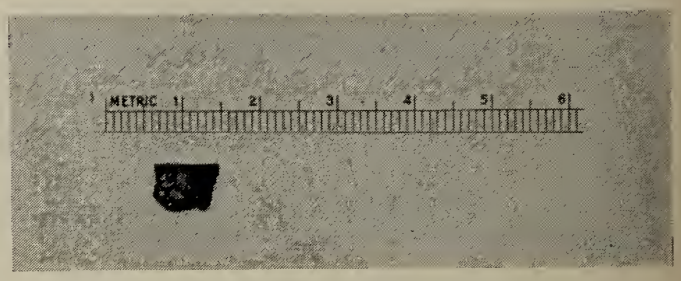

Fig. 3.—Photograph of the foreign body removed. (The measuring scale is in centimeters.)

operative period. The wound healed *per primam* and there was no evidence of residual pericarditis or pleuritis although a roentgenogram obtained on the third post-operative day showed small collections of fluid both in the pericardium and pleura (Figure 4). These were subsequently absorbed. The first post-operative lateral roentgenogram also showed a tiny opacity situated on the posterior wall of the heart and thought to represent a tiny metallic foreign body (Figure 4). On the day after operation he was allowed out of bed and there was an uninterrupted graded activity thereafter.

On April 21 an electrocardiogram showed slight S-T elevation in lead I, questionable elevation in lead II, low T wave in lead I, and a flat T wave in CF_4. These changes were interpreted as due to pericarditis secondary to the operative procedure.

On June 1 the patient was discharged from the thoracic surgery center in the base section and evacu-

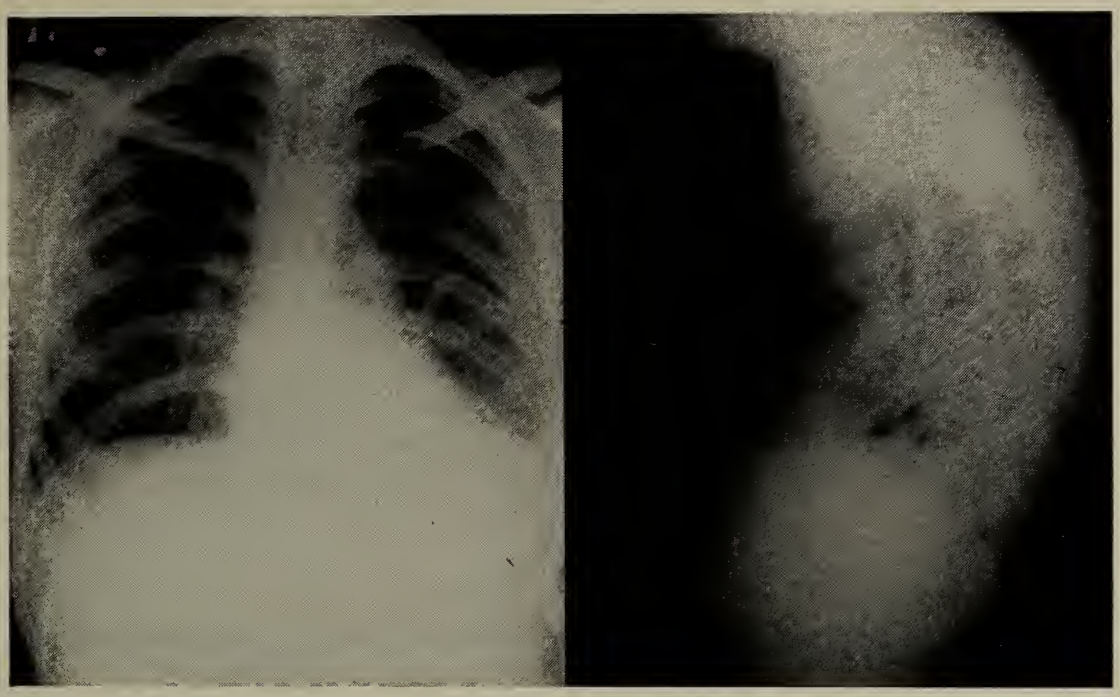

Fig. 4.—Photographs of roentgenograms (postero-anterior and lateral views of thorax) obtained April 20, 1945, three days following operation. Note that the foreign body seen in Figures 1 and 2 is not present. A tiny opaque density probably representing a metallic foreign body can be seen in the lateral roentgenogram.

ated to the Zone of the Interior. The record of hospitalization beyond this date was not available at the time of preparation of this report but the patient states that he was admitted to a general hospital where he remained one week before being transferred to a center for the purpose of being separated from the military service.

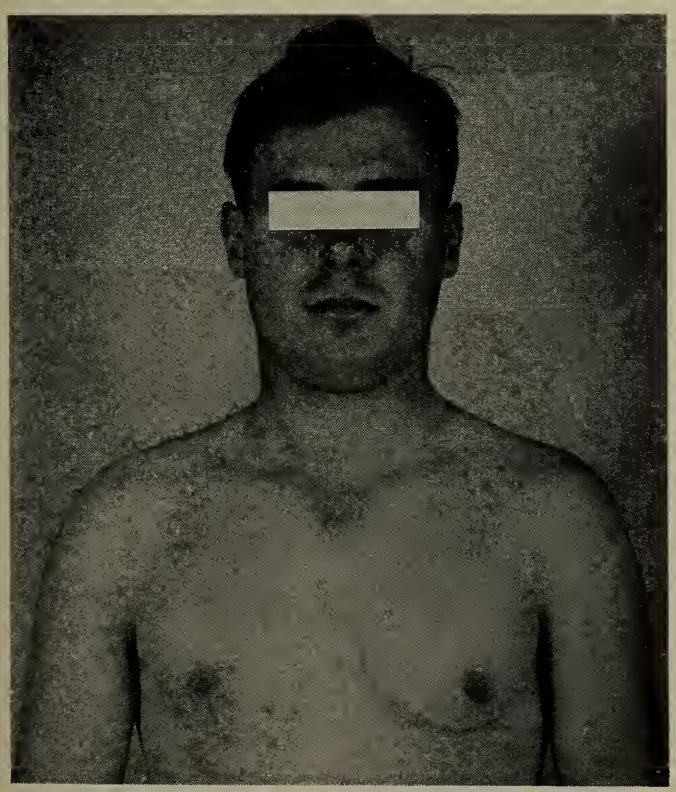

Fig. 5—Photograph of patient obtained September 17, 1948. Note scars of cervical and thoracic operative incisions.

On September 17, 1948, the patient was seen for a follow-up examination (Figure 5). He stated that on the advice of several physicians he had refrained from participating in strenuous physical exertion. At that time he had been engaged in a sedentary occupation which required minimal physical activity. He related having occasionally experienced pain in the cardiac region and sometimes while lying in bed having noticed pounding of his heart. Otherwise there had been no cardiovascular symptoms. Examination revealed nothing remarkable other than the healed operative scar on the left anterior chest wall. There was no defect or weakness of the thoracic cage. Also apparent was the operative scar thirteen centimeters in length in the right cervical region, and smaller irregular scars on both shoulders and in the right flank. Auscultation of the heart revealed no murmurs. Fluoroscopic examination showed no abnormality other than a small opaque density two millimeters in size thought to be on the posterior wall of the right ventricle and thought to represent a metallic foreign body. This foreign body is visible on the post-operative lateral roentgenogram shown in Figure 4. The electrocardiogram was within normal limits.

COMMENT

There are at least 66 instances recorded in the medical literature between the years 1834 and 1948 in which foreign bodies migrated within the blood vascular system. Undoubtedly there are others not reported, as well as some on record which have escaped the notice of reviewers. According to Straus[16] the first recorded case of a migratory intravascular foreign body is that which Davis[3] reported in 1834. Decker[4] in an article dealing with foreign bodies of the heart and pericardium cited 23 examples of migrating foreign bodies which he collected from the literature between the years 1900 and 1938. In 1942 Straus added one personal case and briefly summarized each of 33 previously reported ones. Three of these cases had already been included by Decker and in three other instances there is some doubt about the foreign body having been migratory. In 1946 Harken and Williams[9] reported an experience with three, and in addition found five cases of migratory intravascular foreign body recorded prior to 1942 but not included in the reports of either Decker or Straus. Single cases have been recorded by Samson,[14] Robertson[13] and Cooper, Harris and Kahn.[2] Miscall and Harrison[12] have reported two cases. Samson[15] states that during World War II one U. S. Army Auxiliary Surgical Group functioning in field and evacuation hospitals in the forward areas observed 75 instances of wounds involving the heart and pericardium. Among this number there were four examples of foreign body migration either to or from the heart. Two of these had been reported[13,14] previously.

The paths of intravascular foreign body migration, in theory, may be as varied as the vascular system itself. Harken and Williams[9] have called attention to the bizarre embolic courses and dramatic developments that have characterized many of the cases on record and they have gone into detail in describing some of the patterns of migration. In summary, it can be said that the foreign body may enter either an artery or a vein and proceed by the force of the blood stream or of gravity or of both toward or away from the heart. If the foreign body reaches one of the cardiac chambers by migration or by direct penetration it may come to rest or it may migrate, falling into the venous system or being swept into the arterial system as an embolus.

Among the cases recorded in the literature five are similar to the one herein reported in that they are examples of migratory intravascular foreign bodies which came to rest in one of the chambers of the heart from which successful removal was accomplished. They are summarized briefly as follows: According to Decker, Bichat[1] in 1916, successfully recovered a shell fragment which was lying free in the right ventricle and which had migrated there from the inferior vena cava. A case is recorded by Freund and Caspersohn[6] in which a 13 mm. shrapnel ball was taken out of the right ventricular cavity. The wound of entry was situated at the right costal arch in the nipple line; therefore, the projectile might have entered the right ventricle directly, but the surgeon found no evidence of a wound in the myocardium and concluded that the missile first entered the vena cava and reached the ventricle indirectly. Another case in Decker's collected series of migrating foreign bodies is one attributed to Duval[5] in which a bullet, having entered the thorax, was successfully removed from the right auricle. In 1944 Samson[14] operated upon a German prisoner of war who had been wounded several days previously. The wound of entry was in the thorax and fluoroscopic studies revealed an opaque foreign body identified as intracardiac. At operation a 45 caliber bullet was found within the cavity of the right ventricle 3 cm. to the right of its apex. The missile was removed after incising the ventricular wall and the patient made a satisfactory recovery. Although the portal of entry into the vascular system was not demonstrated, it was postulated that the bullet did not traverse the myocardium, since there was no residual damage to that structure or to the pericardium. The surgeon thought that the foreign body entered either the superior or inferior vena cava just outside the pericardium from which it was washed into the right ventricle. A case reported by Miscall and Harrison[12] is that of a soldier initially wounded in the abdomen. A roentgenogram taken preoperatively showed a metallic foreign body in the pelvis which, however, could not be found on exploratory celiotomy. Subsequent roentgenograms showed that the foreign body had disappeared from the pelvis and on further study it was found to be in the heart. It was removed from the right ventricular chamber and the patient experienced an uneventful recovery.

Harken[8] has operated upon and removed intracavitary cardiac foreign bodies from 13 patients

without a fatality. It is interesting that none of these were missiles of embolic origin. He and Zoll[10] point out the indications which initially influenced their decision to remove intracardiac foreign bodies. These are as follows: (1) to prevent embolism of the foreign body or associated thrombus, (2) to reduce the danger of bacterial endocarditis, (3) to prevent recurrent pericardial effusions, and (4) to diminish the incidence of myocardial damage. Clinical evidence is cited to support the first and fourth reasons, but the second tenet is based on laboratory experiments and clinical support for it is not complete. In regard to the third indication, which has been stressed in the medical literature, these observers state that they have seen two patients with recurrent pericardial effusions but that the symptoms were not severe enough to justify intervention. In the course of their experience with intracardiac foreign bodies, two other reasons became apparent to Harken and Zoll.[10] One was pain, which occurred rarely; the other, cardiac neurosis which was observed frequently. The latter may become an important consideration in spite of efforts to reassure the patient. They found that all of their patients with foreign bodies in or near the heart wanted them removed.

There is always the danger that any foreign body may become a nidus for infection, particularly when organic material such as clothing is carried in by the metallic fragment. An extreme example of the danger of infection as related to intravascular foreign bodies, is illustrated in the case reported by Lyle,[11] in which a metallic foreign body with fragments of clothing adherent to it migrated from a wound of entry in the thigh to the cavity of the right ventricle, following which the patient died of generalized gas bacillus infection.

While the decision for surgical removal of any foreign body must be based on the clinical appraisal of the individual patient, there appear to be at least four well founded reasons for the removal of foreign bodies which have come to rest in one of the chambers of the heart, namely, to prevent or to diminish the incidence of (1) embolism, (2) myocardial damage, (3) infection, and (4) cardiac neurosis. However, all observers are not in agreement concerning the wisdom of removal of intracardiac foreign bodies. Fritz, Newman, Jampolis and Adams[7] cite their own animal experiments together with examples from the literature in support of the nonoperative viewpoint. They conclude that the majority of foreign bodies retained in the heart may be permitted to remain undisturbed as long as they are not producing symptoms or signs of cardiac dysfunction.

Summary

(1) A case is reported in which a metallic foreign body, having lacerated and entered the right internal jugular vein, passed by way of this vessel into the chamber of the right ventricle of the heart from which point of lodgment it was successfully removed by operation.

(2) Brief reference is made to previously recorded cases of migratory intravascular foreign bodies.

(3) The indications for removal of foreign bodies which have come to rest in one of the chambers of the heart are listed.

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New Books.

Below are listed some of the newer books in the Tompkins-McCaw Library of the Medical College of Virginia, Richmond. These are available to our readers under usual library rules:

Bush & Hattery—Scientific research: its administration and organization.
Ciba foundation symposium—Toxaemias of pregnancy.
Grimes—When minds go wrong.
Hurd—Man and his sociological and psychological environment.
Kampmeier—Physical examination in health and disease.
Kirk—Quantitative ultramicroanalysis.
Moore—The individual in simpler forms.
National Research Council—Industrial laboratories of the United States. 9th edition.
Progress in neurology and psychiatry. Vol. 4, 1949.
Rinkel, Randolph & Zeller—Food allergy.
U. S. Naval Medical School—Color atlas of pathology.

Neomycin Effective in Treating Blood, Urinary Infections.

Said to be highly effective in destroying a variety of disease organisms, neomycin—one of the newer antibiotics—has proved beneficial in many cases of blood and urinary tract infections where other antibiotics in current use have failed. This is reported by Drs. Garfield G. Duncan, John R. Wolgamot and Barkley Beidleman, and Carl F. Clancy, Ph.D., in the January 13 J.A.M.A. All are associated with Pennsylvania Hospital, Philadelphia. Dr. Duncan is director of the medical divisions of the hospital and Benjamin Franklin Clinic; Dr. Wolgamot is Rutgers University Research associate at the hospital; Dr. Beidleman is assistant physician to out patients, and Dr. Clancy is the hospital's bacteriologist.

Ten patients suffering with bacterial infections of the blood or urinary organs were treated with the drug. Preliminary laboratory tests showed that the disease organisms were not affected by other methods of treatment, including antibiotics such as penicillin, streptomycin, aureomycin and chloramphenicol, but were sensitive to, or affected by, neomycin.

Results of neomycin treatment were "dramatically effective," the doctors report, in destroying organisms shown by test to be sensitive to it. They considered it "significant" that in no case in which the disease bacteria were eliminated did they return after treatment was stopped.

Reports of toxic effects were confined to one patient and it was necessary to discontinue treatment. She complained of hearing difficulties and the doctors found her kidney function was impaired. Her hearing improved on cessation of treatment; however, the kidney ailment persisted.

Research work at the hospital laboratory already has been successful in isolating 62 organisms of wide variety which are sensitive to neomycin but resistant, or only slightly sensitive, to other antibiotics.

EFFECTIVENESS OF AUREOMYCIN IN TREATMENT OF TULAREMIA—
Report of Two Cases

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Richmond, Virginia,
Claiborne T. Jones, M.D.,
Petersburg, Virginia,
and
George E. Snider, M.D.,*
Richmond, Virginia.

Recent reports, including those of Woodward[1], Spink[2], Ransmeier[3], and their associates, have indicated that aureomycin is highly effective in the treatment of tularemia. The authors recently observed two patients, having the ulceroglandular type, who showed excellent response. One was hospitalized; the other was treated successfully in the home.

Case No. 1:—A sixty-year-old white housekeeper was admitted to the hospital on January 12, 1950, complaining of high fever associated with a "sore" involving the left little finger.

She was in good health until one week prior to entry when she was taken with an illness which she considered to be the "grippe," characterized by malaise, chilliness, weakness, and temperature of 103° F. There had been essentially no other symptoms except for slight aching involving the back of the neck. The illness had begun one week after she had prepared numerous wild rabbits. The site of a "hang nail" became inflamed and a black ulceration with infection under the finger nail appeared. Part of the finger nail was removed by the family physician. Twenty-four hours before admission, she noted a "red streak" up her arm and her physician had given two injections of penicillin (Crysticillin).

The day of admission the temperature was 103° F. Since a friend (Case 2, who had handled several of the same group of rabbits) simultaneously had an illness characterized by similar symptoms, tularemia was suspected and agglutinations were obtained.

On examination the patient was found to be in good general condition. The temperature was 102.4° F. and the blood pressure was 140 mm. Hg. systolic and 90 diastolic. An ulcerated area involved the tip of the left little finger where part of the nail had been removed. There was an area of lymphangitis, along the medial aspect of the arm. There was tenderness of the axillary lymph nodes but there was no fluctuation. Some tenderness was elicited on deep palpation in the region of the spleen.

The laboratory data were as follows: WBC 8,800; neutrophils 66%; lymphocytes 24%; monocytes 10%; sedimentation rate 24 mm. in one hour. The urinalysis and serological test for syphilis were negative. The electrocardiogram was within normal limits.

In spite of the lack of initial laboratory confirmation, the clinical diagnosis of tularemia was made. Since no fluctuation was present and since there was evidence of secondary mixed infection, aspiration of the regional lymph nodes was not attempted.

The patient was given aureomycin, one 250 mg. capsule every two hours for three days, then one capsule every four hours, the total number of capsules administered being 52. Penicillin (Duracillin, fortified, 1 cc. intramuscularly daily) was administered concurrently because of the secondary infection.

There was remarkable subjective and objective improvement. Within forty-eight hours the temperature had returned to normal and the lymphangitis was less marked. Within seventy-two hours (except for the area of healing ulceration) the patient was clinically well. She was discharged from the hospital on the sixth day.

The agglutinations, which were repeated twice during the period of hospitalization, were reported as negative. However, repeat tests done on the thirteenth day after discharge revealed four plus agglutination to tularemia in all dilutions up to 1:320. The patient had remained symptom-free and the lesion involving the finger was healing.

Case No. 2:—The patient was a fifty-two-year-old white barber, who on December 26, 1949, had skinned a wild rabbit. On January 3rd, 1950, he

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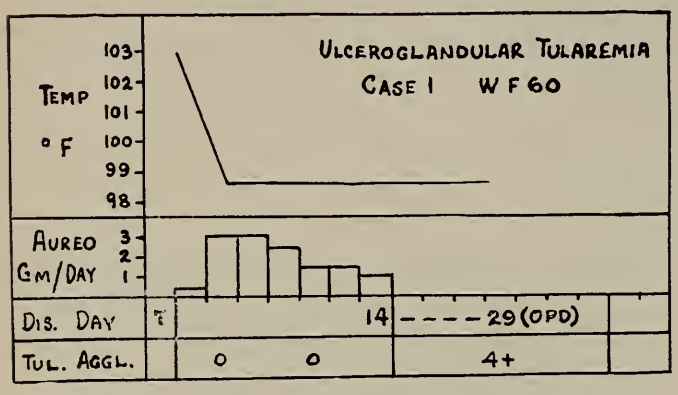
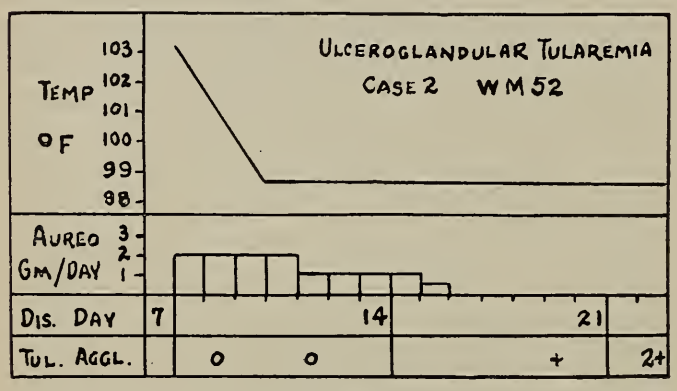
prepared several rabbits and a few squirrels. The patient had a small abrasion on his right ring finger to which adhesive had been applied. Symptoms paralleled those of Case No. 1 with marked elevation of temperature, malaise and the appearance of an ulcer on the finger.



Tularemia was suspected and treatment in the home with aureomycin was begun. The temperature had been 103° F.; within thirty-six hours this had fallen to normal and the symptoms gradually subsided. Aureomycin capsules (250 mg.) were given, two every six hours for four days, at which time the dosage was reduced to one capsule every six hours, the total number of capsules administered being 52.



Agglutination reactions were as follows: January 24, 1950, tularemia positive in 1:50 dilution, B. abortus positive 1:50; on January 27th tularemia positive 1:200 and B. abortus 1:50.

DISCUSSION

In the two cases observed by the authors, no untoward reactions to aureomycin were noted. A small quantity of food or milk[4] was given just prior to the administration of the aureomycin to prevent the development of nausea or other gastrointestinal disturbance. Although aluminum hydroxide has been administered with aureomycin in order to prevent nausea; it has been shown by Waisbren[5] and others that the administration of alkali reduces the effectiveness of the drug and for this reason should not be used.

Woodward[1] and his colleagues have reported that aureomycin has shown significant beneficial effect on mice, experimentally infected with tularemia. In three human cases, including one which probably would have been fatal without chemotherapeusis, prompt recovery followed the administration of aureomycin. These authors feel that the response of these patients to aureomycin was comparable to that which might have been produced by administration of streptomycin.

Ransmeier, Price and Barnes[3] reported treating three cases of tularemia with aureomycin; one case of tularemic pneumonia and one of ulceroglandular tularemia improved immediately after oral aureomycin therapy and rapid recovery followed. Another patient, with ulceroglandular tularemia, treated on the twelfth day of illness, improved subjectively. Glandular suppuration, however, was not prevented.

Prior to the introduction of aureomycin, treatment of tularemia with streptomycin was found to be satisfactory. Other drugs, however, failed to prove effective. Sulfonamides showed questionable therapeutic effect, and penicillin was found to be of no value.

Since there have been no harmful side effects reported with the use of aureomycin, if the response continues to be as favorable as in those cases which have been reported, aureomycin may prove to be the drug of choice in the management of tularemia. Indeed, Long[6] and his associates have stated that aureomycin is the drug of first choice, and streptomycin of second choice.

SUMMARY

This report describes two cases of ulceroglandular tularemia successfully treated with aureomycin.

Aureomycin may be the drug of choice in the treatment of tularemia.

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Another Study Shows Antihistaminics Ineffective in Treatment of Colds.

Carefully controlled studies conducted at the University of Illinois College of Medicine and the Chicago College of Optometry "demonstrate that antihistaminic drugs do not prevent, abort, shorten, curtail, reduce or stop the common cold," according to Dr. Noah D. Fabricant of Chicago, clinical assistant professor of otolaryngology at the university. He reported these findings in the *Archives of Otolaryngology,* published by the American Medical Association. He confirmed numerous similar studies in the United States and Great Britain.

"It was observed," he said, "that antihistaminic drugs are no more effective than placebos [harmless and inert pills] in aborting a cold and that there is no validity to the contention that antihistaminic drugs are more effective if taken within a short time after the start of a cold."

He cited like findings in other studies and added that "sufficient time has elapsed and enough convincing evidence has been accumulated" to establish the ineffectiveness of the drugs in the treatment and prevention of colds.

Dr. Fabricant's studies involved 139 students at the Chicago College of Optometry and 74 students at the University of Illinois College of Medicine. They were conducted through the winter and early spring of 1950.

Possible Hardening of Arteries from Cortisone, ACTH.

The possibility that hardening of the arteries will result when cortisone and ACTH are administered to patients over a prolonged period of time is brought forth by three doctors associated with Mount Sinai Hospital, N. Y., who are studying the side-effects of the newly discovered drugs.

"The factor of prolonged therapy assumes a particular importance," said Drs. David Adlersberg, Louis Schaefer and Stanley R. Drachman, "because of the increased availability of these drugs. It may be expected that many patients with chronic diseases will now receive long courses of cortisone and ACTH therapy."

In the November 11 issue of the J.A.M.A., the doctors report that in 36 percent (17 instances) of the 47 courses of the drugs administered, cholesterol (a fat-like substance in the body) was elevated to excessive levels. This condition is called hypercholesteremia.

This is of extreme importance because medical researchers believe that a definite relationship exists between hypercholesteremia and hardening of the arteries.

The doctors further observed that the longer the treatment and the larger the dosage the more pronounced the condition (hypercholesteremia) became.

THE RHINOLOGICAL ASPECTS OF CHRONIC DACRYOCYSTITIS*

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Chronic dacryocystitis is generally described as an inflammation of the lacrimal sac secondary to stenosis of the nasolacrimal duct. The stricture of the nasolacrimal duct is said to be caused by ascending extension of acute or chronic infection or disease of the nose or paranasal sinuses. It was thought interesting to make a rhinological survey in cases of chronic dacryocystitis for two reasons: first, to determine the extent of nasal and paranasal sinus pathological lesions in these cases, and second, to consider the relationship between these findings and the dacryocystorhinostomy operation. A small series of twenty-five cases was available and the results are here reported.

From a review of the literature, it is obvious that the majority of authors agree that chronic dacryocystitis is a result of congenital or acquired stenosis of the nasolacrimal duct, initiated by infection or disease of the nose or paranasal sinuses: trauma, tumors, and specific granulomata are considered as occasional factors. Kuhnt, quoted by Garfin, examined one hundred cases of dacryocystitis and found only three without nasal changes. Nine cases showed a variety of nasal diseases, sixty-eight had positive sinus disease, and twenty-three had probably sinus disease. Garfin[1] found 55 per cent of his patients with dacryocystitis had nasal pathology of varying degrees; suppuration of the anterior ethmoid sinuses was more commonly associated with dacryocystitis than suppuration of the other sinuses.

Garfin's analysis of his one hundred ten cases is as follows:

chronic rhinitis	21	atrophic rhinitis	3
trauma	5	deviation of septum	4
chronic sinusitis	57	(usually ethmoid, manifest or latent, occasionally associated with maxillary sinusitis)	
vasomotor rhinitis	2	polyposis nasi	3
syphilis of sac	2	tuberculosis of sac	1
no nasal disease	9	osteoma	1

One author, quoted by Garfin, stated that 63 per cent of his cases of dacryocystitis had sinus involvement, and another stressed the importance of suppuration of the maxillary sinus in this regard. The association of atrophic rhinitis and ozena with chronic dacryocystitis has been noted by several writers; in one series sixteen out of thirty-five cases of dacryocystitis had atrophic rhinitis and in another series one hundred and thirty-five out of three hundred and fifty-two cases.

Therefore, because of the high incidence of nasal and sinus disease in chronic dacryocystitis, because of the propinquity of the nasolacrimal duct to the nasal structures, and because the nasolacrimal duct is said to be frequently initially obstructed in the lower part of the duct, the nasal origin of nasolacrimal duct obstruction and chronic dacryocystitis has been hypothecated.

On the other hand, capable observers state that the incidence of sinusitis in chronic dacryocystitis is low, and that the nasolacrimal duct stenosis occurs most often at the junction of the sac and duct. Lyle[2] found the site of obstruction almost invariably at the upper end of the nasolacrimal duct. Few of his patients with chronic dacryocystitis showed abnormalities in the nasal cavity. Two of his twenty-six cases had an accompanying ethmoiditis. One case showed nasal polypi. In Gifford's[3] series of one hundred twenty-five cases, two showed chronic sinusitis, two cases had a deviated septum and one case exhibited nasal polyps. He considers the primary cause of dacryocystitis to be an obstructed masolacrimal duct either at the nasal or upper end of the duct. Seven of his cases were caused by trauma to the nasal and facial bones, one infected sac was diagnosed tuberculosis, two due to lymphatic leukemia and one squamous cell epithlioma.

In an investigation made in 1927, Diggle[4] found comparatively few cases of nasal abnormality or disease in one hundred and twenty cases of lacrimal obstruction, although he felt that ascending infection from the nose a more important factor than descending infection from the conjunctival sac. One hundred and two of his cases were females, the majority between thirty and sixty years of age. Injury was the chief factor in five cases (4.1 per cent). Enlarged

*Read before the Virginia Society of Ophthalmology and Otolaryngology at White Sulphur Springs, W. Va., May 8, 1950.

middle turbinate bones were found in 10 per cent, misplaced middle turbinates 3.3 per cent, deviated nasal septum 8.3 per cent, enlarged inferior turbinates 1.6 per cent, atrophic rhinitis 5.8 per cent, hypertrophic rhinitis 5 per cent, and empyema of the ethmoid sinuses 1.6 per cent. Diggle concluded from these findings that nasal deformities, abnormalities and diseases are rare in nasolacrimal stenosis and suggested that the nasal origin of lacrimal obstruction "non proven".

Some further significant facts were pointed out by Tyrrell[5] and Traquair[6]. Seventy-five to eighty per cent of all cases of dacryocystitis occur in women, generally at the time of the menopause. They feel that the endocrine, developmental, hereditary and anatomical considerations are of major importance. Traquair suggests that the sex predilection alone rules out the nasal origin of dacryocystitis. Only one of Traquair's four hundred and nine cases had intranasal pathology. He divides his cases into primary and secondary dacryocystitis. The former is the most common and has a large hereditary factor; the latter type is rare and is due to injury or disease of the neighboring parts.

Another variable finding has been the presence of pathological lesions in the region of the ostium of the nasolacrimal duct. Some authors have had success in removing anterior septal spurs, hypertrophic inferior turbinates and other lesions in the inferior meatus, while others have noted an absence of this type of lesion in their cases.

In most series trauma is stated to cause 4-5 per cent of the cases of dacryocystitis; in Hallum's[7] series it was the predisposing factor in 17 per cent. Lyle has pointed out the interesting fact that during the war the traumatic cases of chronic dacryocystitis were markedly increased.

In my small series of twenty-five cases of dacryocystitis, twenty-three (92 per cent) were females and two were males. In fifteen cases (60 per cent) the clinical and x-ray examination of the nose and sinuses was negative. Atrophic rhinitis was seen in two cases (8 per cent); in one case advanced ozena was found and in the other mild atrophy with chronic ethmoid and maxillary sinusitis. Two of the cases followed transverse fracture of the superior maxilla. There was x-ray evidence of sinusitis in six cases (24 per cent). In four of the six cases the opacity was shown to be due to a thickened ethmoid or antral mucous membrane, without suppuration, and in one case the frontal sinus was similarly involved. Of the two remaining cases one case showed a chronic suppurative maxillary sinusitis on the side opposite the dacryocystitis. The other case had bilateral dacryocystitis with a chronic bilateral hyperplastic rhinitis with polyposis and extensive maxillary and ethmoid sinusitis. The sphenoid sinus was not thought to be involved in any of these cases.

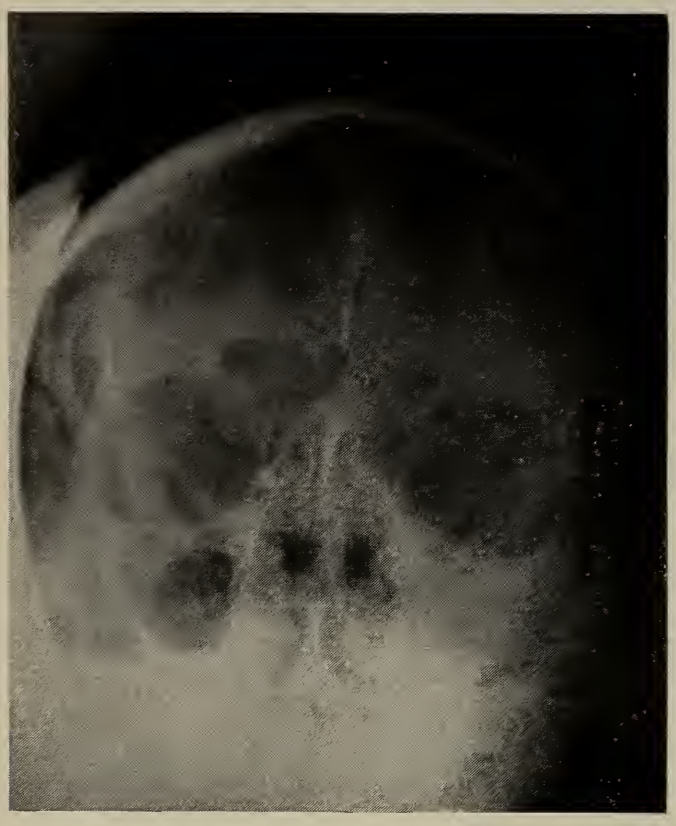
Abnormal intranasal changes were infrequently seen in this series. A deviated septum was noted in six cases, listed as minimal deviation in three instances, moderate in two cases, and marked in one case. Two cases were diagnosed chronic intumescent rhinitis. An anterior septal perforation was seen in one case. Small anterior vomer spurs were seen in three cases. The inferior turbinate and inferior meati were normal in most instances. In one case there was a bony abnormality in the anterior portion of the inferior meatus. The middle turbinate was forward placed in one case. Allergy was considered a factor in two cases.

Remarkable success has been achieved by experienced surgeons in the treatment of chronic dacryocystitis by re-establishing the drainage of tears into the nasal cavity. The external approach is usually advised and numerous techniques have been described to successfully maintain the nasal lacrimal fistula. For the rhinologist the endo nasal approach is the operation of choice. The technique advocated by Sauer is simple and successful in my experience. Regardless of the method of surgery a careful choice of cases and careful preoperative study is essential. Many surgeons conclude that dacryocystorhinostomy is indicated in all cases of purulent dacryocystitis and there are no contradictions provided the passageway from the punctum to the sac is normal. However, in the presence of an atrophic rhinitis, or advanced nasal or sinus disease, if the inferior canaliculus is destroyed, or if the nasolacrimal duct obstruction is due to tuberculosis or tumor growth, other methods of treatment should be chosen.

Stokes[8] advises correction of high deviation of the septum, resection of the anterior tip of the middle turbinate if indicated, removal of polypoid growths and correction of sinusitis before the operation is attempted. In thirty-five of his thirty-nine cases a normal nasal cavity was found, two needed a submucous

resection, one had polyps and two had large middle turbinates.

Although controverted by some, x-ray visualization of the lacrimal sac with lipiodol is a practical routine. Demonstration of the size and position of the sac may influence the type of operation to be performed, and if economy is necessary radiographic appraisal of the sinuses can be done at the same time. This point is illustrated in the picture. Lipiodol in



X-Ray of sinuses demonstrating lipiodol visualization of right tear sac and opaque left antrum.

the left lacrimal sac is well seen; the opaque right antrum was a surprise finding.

Tyrrell thinks that lipiodol x-ray examination of the sac cavity is helpful in finding those cases with small fibrous sacs, those with large patulous sacs, or those with diverticulum of the sac, all of which do poorly after dacryocystorhinostomy, and reduced the possibility of surgical cure by 30 per cent. He also considers as unsatisfactory those cases with polypi in the sac and cases with nasal disease, especially nasal polypi. The only absolute contraindication of dacryocystorhinostomy in his opinion is the presence of a large diverticulum or a previously slit lower canaliculus.

In summary, suppurative sinusitis was present in 12 per cent of this series, in 4 per cent significant enough to contraindicate dacryocystorhinostomy. This operation was not thought to be advisable in two cases of atrophic rhinitis. Nasal abnormalities were conspicuous by their absence. Eighty-eight per cent of the cases were candidates for dacryocystorhinostomy. A submucous resection for a marked high deviation of the septum was indicated in one case, and probably would have been done in five other cases if the nasal approach to the tear sac had been used.

It can be concluded that, in spite of the fact that only a small number of cases of chronic dacryocystitis show infection or abnormalities of the nose or paranasal sinus, a thorough rhinological examination is necessary, especially if the dacryocystorhinostomy operation is considered.

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POLIOMYELITIS— REVIEW OF FIFTY-THREE ACUTE CASES OBSERVED FROM THE ORTHOPEDIC SERVICE AT UNIVERSITY OF MISSOURI HOSPITAL, COLUMBIA, MISSOURI, 1949

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Poliomyelitis is an old disease. Evidence of its severity is believed to have been present during domination of the Egyptian civilization. Withered deformed limbs of people have been seen carved on some of the ancient frescos and in early painting. It was first described in medical writings by Underwood, of London, in 1784. In 1835, John Badham reported four classic cases in children of rural England. The first clear clinical description of the disease was written by Jacob Heine in 1840 and elaborated upon by the same man in 1860.[1] The first outbreak was in Stockholm, Sweden, in 1887, at which time forty-four cases were seen. In this country the first outbreak was reported in 1891 in Louisiana by Louis Colmer. One hundred and thirty-two cases of poliomyelitis were seen in Vermont in 1894. In 1905, the epidemologic pattern of poliomyelitis was established during an epidemic of one thousand and thirty-one cases.[2]

It is generally agreed that poliomyelitis is caused by a filterable virus and this virus is easily destroyed in the laboratory. The virus does live, however, in chlorine treated water which is so high in chlorine concentration as to not be feasible for drinking.[3] At present, three immunologic types of poliomyelitis have been found. Of these three types, fourteen strains have been described.[4,5]

It may occur at all seasons of the year; however, it occurs usually during the late summer and early fall. In the south the disease usually appears earlier in the year than in the north. It also appears as sporadic endemic forms. Direct contact has long been considered essential for the transmission of the virus and is regarded by many as the most likely mode of infection. Yet in recorded epidemics, the proportion of cases in which direct contact has been established or cases occurring in room-mates, nurses and doctors in attendance is exceedingly low.[6] A fatal case was reported in which a laboratory worker handling the virus contracted the disease.[7] This is not in accordance with known contact diseases, such as measles or chickenpox. All of our cases were treated during the acute illness on the isolation ward. Just above this ward on the next floor, the crippled children were being cared for at the same time. Approximately thirty-five per cent of these children had had poliomyelitis previously. No acute case was seen among these other children.

Many persons develop a subclinical or mild undeterminable infection; in others, clinically recognizable disease is produced but few affected individuals develop paralysis. It has also been noted that the trend has been from the child to the teen age and young adult ages.[8]

Poliomyelitis virus was demonstrated in pharyngeal swabs taken from patients ill with the disease. In forty-three per cent of a series of twenty-three cases, it was noted during the first three days of disease. In no instance was the virus found after the third day of illness in thirteen cases.[9] In at least two of twenty-eight healthy children from a neighborhood playground, the virus was isolated.[10] The logical point, at which to break the chain of infection in this disease, is not by attempting to reduce exposure but to control infection by increasing immunity. The future of vaccine prophylaxis lies in increasing the knowledge of the number of virus types and their ability to produce immunity. The method of inoculation of the virus will also have to be improved. Since there have been proven second attacks in this disease in the same person, this questions the ability of vaccination, as immunity may not be lasting or the second attack may have been due to another type of strain of virus.[11] Another obstacle which would have to be overcome would be an available source of virus and complete inactivation must be established.[12, ibid. 4]

The distribution of the virus has been observed not to effect all tissues and organs of the body but is localized in the alimentary tract and central nervous

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system. The virus is found in the tongue, pharyngeal wall, the washed walls of the small and large intestines, as well as their contents. In the central nervous system the virus is not found generally disseminated but is localized in certain specific areas. Necrosis of the nerve cells and perivascular cellular infiltration are the typical lesions.[13] Motor cells which are affected either are destroyed very quickly during the first few days of the disease or undergo slower recovery changes leading to complete morphologic recovery within about a month. After this time, it can be shown that the degree of paralysis and atrophy are closely correlated with the number of motor cells destroyed.[14] Sensitivity disturbance is exceptional. The degree of inflammatory reactions as reflected in the spinal fluid has no correlation with the seriousness of paralysis.[15]

The virus has been rarely ever demonstrated in the blood stream. One of our patients, who suffered a severe encephalitic form, had delivered a normal child two weeks prior to admission. The child has remained normal. Therefore, since the virus is believed to rarely enter the blood stream, the placenta is considered to be rarely exposed to the infection.[16] Harmon and Hayne reported a case in which virus studies on the spinal cord of a fetus of a patient who died of acute poliomyelitis were negative.[17] Other authors have reported a fatal case who was eight months pregnant. Autopsy revealed evidence of encephalomyelitis disease in the mother, as well as swelling and congestion of the anterior horn cells of the cord. The virus was demonstrated in the mother but could not be isolated in the fetus.[18]

There were a total of fifty-three cases of known poliomyelitis admitted to the University Hospital from July through October. Eleven additional cases were admitted for observation but were not diagnosed as poliomyelitis. There was a rather sudden increase in cases during the latter part of the month of October. These cases were all from the same small town. The seasonal trend of ours is shown in Table I.

TABLE I
DISTRIBUTION OF CASES BY MONTHS

July	August	September	October
20 cases	20 cases	5 cases	8 cases

The ages of the patients varied from nine days to thirty-nine years. The youngest case died and the diagnosis was definitely established from the central nervous system lesions. The thirty-nine year old patient was the only Negro admitted. She suffered a severe polioencephalitis with residual paralysis of both legs and the right arm. Brunet has shown there has been somewhat of a shift in the ages to involve the older children and young adults.[19] This has also been revealed both in Denmark and New York.[20] The ages of our patients are shown in Table II.

TABLE II
AGE INSIDENCE OF POLIOMYELITIS

Age in Years	Number of Patients
1- 4	15
5- 9	14
10-14	6
15-19	8
20-24	4
25-30	4
over 30	2

In our group of cases there were thirty-two males and twenty-one females admitted.

In making the diagnosis of this disease the physician is guided by the signs and symptoms, with which he is familiar. The final evidence in diagnosis is to demonstrate the causative organism. This is quite difficult technically in virus disease, so he must be content with less specific evidence. He first takes notice of existence of other cases, season of the year, evidence of acute infectious symptoms and signs of meningeal irritation, evidence of damage done to scattered groups of lower motor neurons of cord and medulla, lack of sensory involvement and evidence given on examination of the spinal fluid.[21]

All cases of suspected poliomyelitis were admitted to the isolation ward. The prodromal symptoms consisting of acute coryza, or gastrointestinal tract upset were present in about twenty-five per cent of the cases. The actual onset of the disease was usually marked by fever and headache. In an occasional case, the original symptoms were followed by an asymptomatic period of about three days. Then symptoms of headache, nausea, vomiting, irritability, lethargy, stiff neck and stiff back appeared. Pain in the legs, hips or arms was commonly present. Many of the patients on admission had partial or complete paralysis. In the bulbar cases symptoms beside meningeal irritation, such as difficulty in swallowing, breathing and nasal speech, were present. Sphincter disturbances were occasional complaints with constipation the rule in most cases.

The physical examination was the most important

procedure in making the picture of poliomyelitis a characteristic entity. Many of our cases were from distances over fifty miles, and on admission appeared acutely ill. Flushed appearances with oral pallor were common. Moderate hyperemia of the pharynx was the rule. The most common findings were stiff neck and stiff back with positive Kernig's sign and Hoyne's sign. Reflexes were found to be hyperactive with variations to complete abolition. Muscle tenderness was frequently elicited but in the complete flaccid muscle no tenderness was present. The diagnosis was as a rule completed in demonstration of weakness or paralysis in the various regions involved. With the weakened muscle, spasm was commonly observed.[22] Spasm was not present in the completely paralyzed muscle. This was observed particularly in the back, neck and hamstring muscles. It existed not only in the antagonists of weakened muscle, but also in the weakened muscle itself. When the strength of the voluntary contraction increased through treatment the spasticity decreased.[23]

The distribution of muscular involvement in most epidemics has been the lower limbs much more frequently than the upper limbs. In the former the quadriceps, anterior tibialis and peroneals are most frequently affected. In the latter the deltoids, triceps and biceps are affected more frequently than muscles of the fore-arm or hand. The most frequently seen reversible affections in poliomyelitis were paresis of the bladder and parts of the gastrointestinal tract. It has been suggested that this phenomena is due to involvement of their parasympathetic innervation. These organs belong to a few viscera having an intramedullary representation of their parasympathetic control.[24, ibid. 14]

Table III lists the distribution of region involved in paralysis or weakness.

Table III

Distribution of Involvement by Region

Region Involved	Number of Times
Right arm	10
Left arm	8
Diaphragm	3
Intercostals	4
Right Upper Leg	14
Left Upper Leg	13
Right Lower Leg	15
Left Lower Leg	9

The individual muscles which showed weakness or paralysis most often are shown in Table IV.

Table IV

Individual Muscles Involved

Muscles	Number of Times
Quadriceps	25
Anterior tibialis	25
Deltoids	21
Peroneals	15
Triceps	12
Biceps	11
Others	12

The diagnosis of poliomyelitis is aided by examination of the spinal fluid. This examination was not carried out in those cases in which the diagnosis was certain. The appearance of the fluid is clear and in general the white cell count ranges between fifteen and five hundred with the lymphocytes predominating. In most instances, the fluid protein is slightly increased. Sugar determination is generally normal.[25] In thirty-two cases, this examination was done. In the majority of our cases the cells found did not exceed three hundred, nor did the protein findings exceed sixty mgm. per cent in the majority of cases. The findings in our cases are listed in Table V.

Table V

Lumbar Punctures

Number of L. P. Examinations 32

Cells	Cases	Protein mgm. Per Cent	Cases
1- 49	10	20-29 mgm.	5
50- 99	6	30-39 mgm.	9
100-199	6	40-49 mgm.	7
200-299	6	50-59 mgm.	6
300-399	2	60-69 mgm.	2
Over 400	2	70-79 mgm.	1
		over 80 mgm.	2

Hemoglobin values were essentially normal. The white blood counts were approximately ten thousand; however, the differential counts were not revealing.

There are several types of the disease which may be classified as: abortive, non-paralytic, paralytic, and polio-encephalitis. The paralytic type includes the spinal and bulbar involvement. Abortive poliomyelitis is that type in which prodromal manifestations are present, but there is never any clinical evidence of invasion of the nervous system by the virus. This type is believed to outnumber other forms by ten to twenty times.[26]

Non-paralytic poliomyelitis is the form in which there is clinical and laboratory evidence of invasion of the central nervous system without residual pa-

ralysis. Paralytic poliomyelitis is the type in which paralysis of muscles is present. The bulbar type denotes involvement of the pons, midbrain, and medulla.[27] Of fifty-three cases there were thirty-two paralytic and twenty-one non-paralytic cases. Of the paralytic cases there were six bulbar cases and four deaths. Death was commonest on the fourth day of disease and the result of either respiratory or circulatory failure or both was evident.[28]

There have generally been two types of treatment. The older one is sometimes referred to as the "Orthodox Concept" and the newer one the "Unorthodox Concept." The methods are designed to prevent and to correct the abnormalities which develop during the various stages of the disease. In the "orthodox concept" the treatment was limited toward giving the involved parts rest and support to minimize movement of the painful or paralyzed parts. To accomplish this, casts, splints, sandbags and pillows were used. Physical therapy was begun after the acute stage in which muscle pain, rigidity and tenderness had disappeared. In the "unorthodox or Kenny concept," the treatment is directed toward relieving spasm and incoordination.[29] We used the treatment as advocated by this method, in which hot fomentations are used. These were applied to the tender muscles by means of woolen packs. The larger joints were allowed freedom to allow motion. It is believed that alternate heating of the muscles allows for the production of muscle relaxation which, in turn, relieves pain and tenderness. Physical therapy was begun as soon as the toxic manifestation had subsided. These exercises consisted of gentle active and passive motions of the involved joints.[30] We differed from the "Kenny Concept," in that we recognized the existence of flaccid paralysis, muscle weakness, and spasm. These, we believed, were not caused by mental alienation but by definite pathological processes in the central nervous system. This has also been suggested by other authors.[31,32,33] Green and Gucker have stressed the importance of moist heat, but there are many other features of treatment more important.[34]

Since the disease is one of the central nervous system we attempted to keep the muscles in as good condition as possible to await the time when impulses could again traverse the involved nerves. Paralyzed muscles can be over-stretched if patients persist in moving them with gravity. To prevent this, foot boards and sandbags were used. After all tenderness had subsided, braces to prevent over-stretching and to give support were placed on the affected limb. No one has proved that braces have caused damage if worn under the guidance of an intelligent individual who takes them off at intervals and employs proper physiotherapy.[35]

During the toxic phase of the disease the treatment is symptomatic and palliative. Salt tablets were given all patients while receiving hot packs. The diet should be soft for the first few days but adequate in caloric and vitamin content. Fluids were given freely. Enemas were given daily. Paralysis of the bladder was treated by an indwelling catheter, caution being taken to prevent infection.

Respiratory disturbance was the most serious complication encountered. This was due to collection of mucus in the back of the throat caused by paralysis of the pharyngeal muscles, paralysis of the respiratory nucleus in the medullar and paralysis of the diaphragm and intercostal muscles.[36] The indication for placement in the respirator was severe difficulty in breathing. The pure spinal cases were fed naturally as they had no swallowing difficulties. When the swallowing was affected, intravenous, subcutaneous or rectal routes were used until normal swallowing could be re-established. Prophylactic measures against the development of pneumonia included frequent changes in position, suction and administration of penicillin.

Bulbar poliomyelitis can be divided into different groups depending upon the region of the brain attacked. By far the most frequent type of involvement is that of the cranial nerve nuclei. When the tenth nerve is involved, difficulty in swallowing and talking develops. This may lead to subsequent obstruction of the airway. These symptoms of obstruction can be prevented by constantly using suction, postural drainage and, when absolutely necessary, tracheotomy. Some cases of bulbar poliomyelitis may involve respiratory and circulatory centers. In these cases there may be respiratory and circulatory failure even in the absence of severe cranial nerve involvement. The treatment of choice is oxygen under some pressure and if the respiratory center and spinal cord are involved together, the respirator is indicated.[37] In such cases an adequate airway must be maintained. We believe tracheotomy is rarely indicated, as this procedure makes accessible to the

suction catheter only a small additional area of the trachea and does not suffice for a patient with lower tract obstruction. Priest *et al.* reported approximately four hundred bulbar cases in which seventy-five necessitated tracheotomies. Forty-six of these died and twenty-nine lived. Seventeen were thought to be helped by this procedure.[38]

It is well established that if the bulbar case is purely central the respirator is contraindicated. The patient cannot be trained to breathe with the machine as the irregularities of his inspiration are dependent upon the irregularity of central stimulus. We believe if the chest excursions are not great enough to get a proper exchange of oxygen even with positive oxygen therapy, these patients should be placed in the respirator. Once the patient is in the respirator fifteen or twenty pounds of negative pressure is indicated at a rate from sixteen to twenty times per minute. Positive pressure should not be used as the chest will return to its deflated position passively. Weaning from the respirator is begun early.[39]

There are at present no specific drugs for the treatment of poliomyelitis. There is much argument concerning the merit of various therapeutic agents. Methods of therapy, which are efficient in the hands of some physicians, fail to produce good results in the hands of others.

We used aureomycin in eighteen of our patients. The dosage used was 250 mgm. every four hours for sixteen doses. No beneficial effects were noted in any case, such as shortening the period of toxicity or halting progression of the disease. In several cases in which this drug was administered, the patients had to have the drug discontinued because of drug toxicity. Fox reported the use of curare in thirty-four cases of poliomyelitis and subjective improvement was noted.[40] The bulbar cases did not respond. Ransahoff was very enthusiastic about the use of intocostin (curare) in a preliminary report of four cases. This was again reported in a follow-up article when the drug was used in the treatment of twenty-nine patients. He recommended discontinuance because of further lack of benefits and lack of experience with its use.[41]

It has also been reported in a series of a hundred and eleven patients with preparalytic poliomyelitis observed for approximately six months after onset, that no benefit was detectable when fifty-six of them received large doses of gamma globulin intramuscularly as compared with fifty-five alternate untreated cases. This observation further indicates that serum in any form is rather ineffective in the therapy of poliomyelitis.[42]

Fox and Sparkus in their cases of acute disease used neostigmin. This caused a partial relaxation of spastic muscle, but was neither constant nor pronounced and was characterized by irregularity.[43] Prostigmine was used in a series of twenty cases by Kabot and Knapp.[44] It was thought to be of some benefit; however, the patients continued at the same time to receive hot fomentations. Thus, no definite conclusions could be derived. Penicillin and pooled plasma have been used without effect on the course of the disease. Convalescent serum has been used in preparalytic states of polio without benefit.[45]

Benzazoline Hydrochloride (Priscoline) was used in eleven of our own cases without noticeable benefit. This drug was used in seventy-nine cases of Smith *et al.* They believe symptoms relief was obtained in all cases. They did say that their report was preliminary and further investigation was warranted.[46]

In conclusion, we believe recovery is dependent entirely upon the amount of initial damage to the central nervous system. If after a reasonable period severe paralysis persists and recovery seems to have ceased, efforts should be directed toward the development of the remaining muscles and the use of various permanent supports. More time should be spent in teaching the patient to handle himself with what he has than in trying to re-educate muscles which show no signs of recovery. The final stages of therapy consist in the use of orthopedic appliances and surgical procedures for the purpose of correcting deformities and producing stabilization.[47]

Summary

A brief history of poliomyelitis is presented, as well as the epidemiology which is discussed. Fifty-three cases of acute poliomyelitis are reviewed. All these patients were admitted for treatment from July through October, 1949. There were four deaths with the youngest patient only nine days old. This was proven at autopsy.

The most prominent symptom with which the patients complained was headache. The sign which was elicited most often was stiffness of the neck and back. Paralysis was observed in approximately two-thirds of the cases.

The clinical picture of bulbar poliomyelitis is discussed. Indications for the use of the respirator are presented. Tracheotomy is believed to be indicated rarely.

The efficacy of curare, aureomycin, priscol, prostigmine, and gamma globulin is reviewed. We used priscol and aureomycin in the treatment of some of our patients and did not find them to benefit either objectively or subjectively. The progression of the disease did not appear to be lessened by the use of these drugs.

I wish to express my indebtedness to my chief, Dr. William J. Stewart, for his excellent teaching and patience.

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Palfin, Jean (1650-1730) Anatomie chirurgicale; ou Description exacte des parties du corps humain, avec des remarques utiles aux chirurgiens dans la pratique de leur art . . . nouv. ed. *Paris, Guillaume Cavelier,* 1734. 2 v. Plates. (M. L.)

——, Anatomia chirurgica ovvero Descrizione esatta delle parti del Corpo Umano, con osservazioni utile a' Chirurghi nella pratica della loro professione. *Venezia* 1758. 3 v. Front. port. plates.

Jean Palfin (usually spelled Palfyn) was born in Courtrai in 1650. He was one of the greatest surgeons in Belgium, and was one of the inventors of the obstetrical forceps. He lived in Ghent. He demonstrated his "iron hands" to the Paris Academy in 1723, when he was in the French capital seeing his *surgical anatomy* through the press. His forceps was a two blade affair whose shanks did not cross and had no lock. An account of it is found in Heister's surgery. Palfin did not publish a description of his instrument.

CORTONE THERAPY IN ACUTE GOUT

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Acute gout is one of the most painful maladies to afflict a human being. It is one of the oldest diseases on record. A description of it has been found as early as the fifth century B.C. in the writings of Hippocrates. Although this disease has been well known for so many years, it has only been since everyone has become interested in hypersensitivity reactions that we have developed a new concept about the problem of gout. Harkavy suggested that acute gouty arthritis and hyperuricemia could be produced by specific allergenic excitation, and in a study of three patients demonstrated that allergy as well as infection played a conspicuous role in the disease. He suggested that a gouty individual may be regarded as a potentially allergic patient whose joints constitute the major shock tissue with a coincidental uric acid diathesis.

This is a case record of an attack of acute gout treated with cortisone acetate (Cortone).

CLINICAL HISTORY

This patient is a white male, age 46, who had been in excellent health all of his life until 1937, when he developed a severe bronchial pneumonia, recovering after one month. Following this episode, the patient developed a mass in his left neck which was removed and found to be aberrant thyroid tissue. He remained in perfect health until June, 1941, when another mass was discovered in the left lobe of the thyroid gland. This was removed on June 19, 1941. The following day, the patient had swelling of the left great toe, which was acutely painful. He was treated with various symptomatic remedies, but it was not until several months had elapsed, with recurring bouts of pain and swelling in the toe, that gout was recognized. At that time a blood serum uric acid level was 4.2 mg. The patient remained on a low purine diet for a year but had several minor episodes of gouty arthritis about the toes and the ankles. During the next six years the attacks were periodic, occurring two to three times a year, mostly in the spring and summer months. They were usually associated with excessive mental effort but not related to food or drink. In May, 1947, after a throat infection, the patient developed an acute gouty arthritis involving both knees, especially the left. He remained in the hospital for two weeks, requiring aspiration of the knee joint. The uric acid was 4.8 mg., NPN 49; the remaining laboratory studies were within normal limits. Leaving the hospital, the patient was disabled for a period of seven weeks. Following this episode, he was fairly comfortable until August, 1949, when another attack involving the left knee was not too severe and the period of disability was two weeks. In all of these attacks the patient had been treated with colchicine, neocinchophen, analgesics, diet, glucose, and physiotherapy. During the attacks, the patient was always very toxic. This toxicity was associated with mental lethargy, weakness and irritability, lasting from one to three weeks. On May 8, 1950, the patient developed a cramp in his left calf muscle which appeared to be the beginning of a gouty attack. He limited his activities but continued to work. The morning of May 10, the cramp was more severe, spreading to the left knee. Blood studies were taken, which will be reported in detail. The patient was started on Cortone, taking 100 mg. at 11 A.M. and 1 P.M. He became bedridden that evening. The following day the left knee was moderately distended with fluid. He required several doses of codeine and was given 100 mg. Cortone at 3 P.M., and was then referred to the hospital.

PHYSICAL EXAMINATION

A well nourished male, lying flat in bed, complained of discomfort and swelling of his left knee. Temperature 99.6. Blood pressure 135/90. Few small tophi were palpated along the ear lobes. Eyegrounds negative. Ears, nose and throat normal. Neck negative, except for scar of old thyroid operation. Chest, lungs and heart were normal. Abdo-

From the Medical College of Virginia, Department of Medicine.

We are indebted to Dr. J. M. Carlisle, Medical Director, Merck and Co., for providing the Cortisone acetate (Cortone, Merck) used in this study.

men soft, no masses. No abnormal masses were palpated. There were several cartilaginous deposits along the tendon sheaths of the hands. The left knee was distended with fluid and acutely painful to manipulation. There were normal pulsations in all extremities. The reflexes were normal.

Clinical Course in the Hospital

The patient was admitted to the hospital on May 12, 1950. The left knee was aspirated and 30 cc. of thick, yellow, gelatinous fluid removed. He was started on 50 mg. Cortone every eight hours. On May 13, four days after the attack, the patient did not require any further sedation. The knee swelling began disappearing, he was alert, able to move the knee, and cheerful. Since then his improvement continued very rapid and in a period of six days he was able to take a few steps, using his left leg without pain, leaving the hospital on the sixth day.

Laboratory Studies

May 10, 1950: 10 A.M.—Na—140 meq/1. K—4.5 meq/1. Uric acid serum—7 mg.%. Chlorides—500 mg.% or 90 meq/1. CO_2—72.1 vol.% or 32 meq/1.

May 12, 1950:—Hbo. 14.6 grams, RBC 4,700,000, WBC 8,750, polys 82, eos. 1, lymphs. 15, monos. 2. Urine—sp. gr. 1.020, acid, one plus, albumin negative, sugar and acetone, negative sediment. Chlorides—532 mg.% or 91 meq/1. Serum uric acid—6.8. Joint fluid uric acid—6.4. Blood sugar—122. NPN—48. Flocculation—negative. Sedimentation rate (Wintrobe)—24 mm. in 60 minutes. Culture of joint fluid—negative.

May 13, 1950:—Na—132 meq/1. K—4.9. NPN—49. Blood sugar—114. Chlorides—488 mg.% or 84 meq/1. Sedimentation rate—39 mm. in 60 minutes. Serum uric acid—5.7 mg.%.

May 15, 1950—Urinalysis—acid, sp. gr. 1.024, negative albumin, sugar and sediment.

X-ray of left knee, normal.

Electrocardiogram, normal.

May 17, 1950:—CO_2—74.9 vol.% or 33 meq/1. Sedimentation rate—34 mm. in 60 minutes.

May 24, 1950:—Na—134 meq/1. Serum uric acid—4.32 mgm.%. CO_2—74 vol.% or 33 meq/1.

Cortone Therapy

May 10, 1950:—100 mg. at 11 A.M. and 1 P.M.

May 11, 1950:—100 mg. at 3 P.M.

May 12, 1950:— 50 mg. at 9 A. M., 4 P.M., and 12 Midnight.

May 13, 1950:— 50 mg. at 8 A. M. and 4 P.M., 100 mg. at 12 Midnight.

May 14, 1950:— 50 mg. at 8 A. M., 4 P.M., and 12 Midnight.

May 15, 1950:— 50 mg. at 8 A.M. and 8 P.M.
May 16, 1950:— 50 mg. at 8 A.M.
May 17, 1950:— 50 mg. at 8 A.M.
May 18, 1950:— 50 mg. at 8 A.M.
May 19, 1950:— 40 mg. at 8 A.M.
May 20, 1950:— 25 mg. at 8 A.M.
May 21, 1950:— 25 mg. at 8 A.M.
May 22, 1950:— 25 mg. at 8 A.M.
May 23, 1950:— 10 mg. at 8 A.M.
May 24, 1950:— 10 mg. at 8 A.M.
May 25, 1950:— 10 mg. at 8 A.M.
May 26, 1950:— 10 mg. at 8 A.M.
May 27, 1950:— None.
May 28, 1950:— None.
May 29, 1950:— 25 mg. at 8 A.M.

Clinical Course at Home

After returning home on May 17, 1950, the patient improved to such an extent that he was able to return to partial office work in seven days. He continued to work on a reduced schedule until May 29, 1950. On that date the left knee joint developed fluid and became exquisitely painful again. This occurred after the elimination of Cortone for a period of two days. In spite of the recurrence of activity in the left knee, it was decided to discontinue Cortone. The patient started on neocinchophen and complete bed rest, finally making an uneventful recovery after a period of two weeks.

Discussion

The laboratory studies in this particular case did not show any startling changes while the patient was under the influence of Cortone. The initial studies on May 10 revealed a normal sodium and potassium, the uric acid level was elevated; the CO_2 combining was also elevated. Two days later there was a slight elevation of the blood sugar, the NPN was elevated, and the sedimentation rate showed a marked drop. On May 17, after a week in the hospital, the CO_2 combining was still elevated; the sedimentation rate had improved. On May 24, after apparently recovering, the uric acid level had returned to a high

limit of normal; the CO_2 combining was still slightly elevated.

These studies confirm various other investigations,[2] demonstrating that Cortone in large doses over a prolonged period may cause slight elevation of the blood sugar and a tendency towards alkalosis. There were no immediate changes in the hyperuricemia, as the serum uric acid did not return to normal until two weeks following the initial administration of Cortone. The sedimentation rate also remained elevated until the initial attack had subsided.

It is most difficult to evaluate the effect of Cortone in this particular case. The patient developed a typical euphoria, which has been described by so many observers. This was probably due to either a direct effect of adrenal hormones on the central nervous system or a combination of this effect and the sedative action of Cortone. When the dosage of the drug was lessened the patient immediately complained of the usual lethargy which accompanied his previous attacks. This started when the dosage was dropped to 25 mg. daily. The euphoria was present with a dosage of 50 mg. or more daily. The immediate improvement while in the hospital was almost unbelievable, as this patient had suffered many previous attacks of gout and had been through the various phases of the disease, including the agonizing pain, irritability, depression and toxic manifestations. The disappointing aftermath, culminating in a recurrence of pain and swelling, might possibly be due to the discontinuance of the drug for two days. Most likely the recurrence was caused by the patient's returning to restricted activities too soon following his acute attack. The other possibility is that after the withdrawal of prolonged Cortone therapy there is a period of adrenal atrophy lasting from four to ten days, during which the adrenal cortex may function poorly or not at all. This period of relative adrenal cortical insufficiency may have been an ideal time for reactivation of the gouty syndrome.

We realize that we are dealing with a very unusual drug. The dosage of this drug has not been standardized; the length of time it should be administered and when the drug should be discontinued has not been established. The adverse effects on the body's metabolism is not fully understood. In fact, although many investigators are studying the effect of both ACTH and Cortone on various disorders, none are in agreement as to the exact action and the proper dosage. We believe that in our particular case the patient was greatly improved and would have made a complete recovery if he had not become active so soon. Cortone is a very powerful medication and we are sure that in a short period of time the question of dosage will be standardized and the drug will be of great assistance in the treatment of many obscure maladies such as gout.

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FOOD ALLERGY, ITS APPLICATION

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Medical practitioners must have a fundamental grasp of food allergy and its implications inasmuch as allergic manifestations mimic a great many diseases. Many physicians discount the importance of food allergy because they lack the fundamental concepts concerned in this subject and have not attempted the time-consuming methods that are sometimes necessary to elucidate the problem.

The purpose of this paper is two-fold:

1. To outline the fundamental aspects of food allergy.
2. To outline a practical approach to the problem.

Definition

Rinkel[5] defines food allergens as "those foods which under correct conditions of testing, produce definite clinical manifestations. These reactions must be not only constant with repeated trial, but also must exhibit specificity."

Classification: (Modified from Rinkel)[3,6,7]

I. Fixed sensitization
   A. Minor allergens
   B. Major allergens
II. Intermittent sensitization
   A. Minor allergens
   B. Major allergens

Definition of terms:

1. Fixed sensitization[3]—a food is said to have a fixed sensitization when ingestion produces symptoms whenever it is eaten irrespective of the frequency with which it is eaten.
2. Intermittent sensitization refers to food sensitivities which are clinically evident on some occasions and are apparently innocuous at other times.

Rinkel[6,7] calls this type of food allergy "cyclic" food allergy and states that these types of "food allergies are those that become clinically evident with the use of the food and tend to disappear with omission of the food. The presence or absence of an allergic status is determined by the incidence of the food in the diet."

Cyclic sensitization may also be major in that the allergen itself may produce an allergic response or minor in that it is of such intensity that the effect is subthreshold and requires associated allergens or a lowered threshold to produce its effect. Minor sensitization is the basis of Concomitant Food Allergy.

3. Major food allergens[3] are those foods that in themselves will bring out an allergic syndrome. The allergic reaction may occur immediately, within a few minutes to a few hours, or delayed, that is, occurring in one to two days after ingestion.

One of my patients, for example, each time beets are eaten develops a typical angioneurotic edema with swelling of the face, eyelids and lips within an hour. The beets are an example of a fixed major food allergy.

4. Minor food allergens[3]—those foods causing an allergic response which is below the threshold level to produce a clinical effect. It may produce symptoms in the presence of other allergies or at times when the threshold level in the patient is lowered.

Minor food allergens are thus food allergens which produce a subclinical sensitivity and set the stage for other factors to operate. The other factors may be major allergens or minor allergens producing a synergistic effect and thereby reaching a threshold of sensitivity. Anything which would lower the patient's threshold of sensitivity may also bring minor allergens to a clinical level. In this way, emotional stimuli, fatigue, or infection might lower the threshold of sensitivity to the point where the level of stimulation of a minor allergen is now capable of producing an allergic syndrome.

5. Concomitant food allergy—This term refers to minor food allergies which are associated with other exciting agents, minor or major, and thereby bring out a clinical response.

(a) Associated with inhalant allergy, including pollens.[3,6,7]

In allergic rhinitis, bronchial asthma, and other allergic syndromes, minor food allergy is of great

importance. There are frequent cases of seasonal hay fever or asthma in which the food allergy must be controlled in the season or the usual pollen desensitization will be to no avail. Yet, out of the pollen season the food can be eaten with impunity.

(b) Associated with psychoneurosis or emotional excitement.

One of my patients has an allergy to chicken, eggs, and other foods which bring on bouts of sneezing, watery rhinorrhea, nasal obstruction, abdominal pain, distention, and eructations. Avoidance of the foods relieves the symptoms but emotional excitement alone will bring on particularly the gastro-intestinal component. One evening she went to a cocktail lounge atop a tall building. On looking out of the window, she was suddenly frightened and within seconds had a recurrence of abdominal pain and eructations which lasted about an hour.

Psychoneurosis has a definite synergistic effect with allergy and particularly food allergy. Here there is a vicious cycle. Allergy causes nervousness which in turn aggravates the original allergy.

(c) Associated with infection.[3]

There are many instances of asthmatic bronchitis or true bronchial asthma in children which are brought on by respiratory infection or the child has frequent "colds" in the winter. Allergic control diminishes the number of "colds" and cough and abolishes the asthma. In these cases, allergic control has enabled a child, when it does have a respiratory infection, not to suffer from the asthmatic component. Food allergy here is but one part, in some cases the only part, in the allergic control.

(d) Associated with physical allergy.[6]

Physical allergy refers to allergic syndromes brought on by cold, heat, or sunlight. An uncontrolled minor food allergy or other associated allergies make these cases more difficult to treat.

(e) Associated with contact allergens.

In food allergy, particularly in allergic dermatitis, the contact sensitivities and nonspecific irritants must be removed along with the minor and major food allergens as well as other allergens.

(f) Associated with physical debility.

Anemias and malnutrition may lower the threshold of sensitivity to bring the minor allergens to a clinical level.

(g) Combinations of two or more allergens with synergistic effect.

SYMPTOMS OF FOOD ALLERGY

One of the earliest symptoms of food allergy is the neuromuscular group, that is weakness, easy fatiguability, increased tendency to sleep, poor concentration, and nervousness. This group of symptoms is frequently considered in such chronic diseases as chronic undulant fever, hypoglycemia, hypothroidism, rheumatic fever, and infectious mononucleosis.[4,5,11] But allergy is a common cause of these symptoms. Neurasthenia should not be diagnosed without excluding organic disease and food allergy. Randolph[4] states that weakness and fatigue due to food allergy are usually associated with other allergic manifestations such as allergic headaches, vasomotor rhinitis, or gastrointestinal disturbances.

Irregular fever of unknown origin can be due to food allergy, as was reported by Rowe.[10] He had a female patient 18 years of age who had a "prolonged allergic fever that was preceded by a life-long anorexia, aversion for milk, and recent colonic symptoms."

Gastro-intestinal symptoms such as nausea, vomiting, abdominal pain and distention, eructations, flatulence, and diarrhea are frequently due to food allergy.

Vasomotor rhinitis, bronchial asthma, asthmatic bronchitis, and skin manifestations are well-known results of food allergy.

Other symptoms are headaches, epileptiform convulsions, Meniere's syndrome, paroxysmal tachycardia, bursitis, lymphadenitis, arthritis, personality changes especially in children, and conjunctivitis. Localized dermatitis of the hands also has been shown at times to be due to food allergy.[9]

Rinkel[6,7] gives the following helpful criteria of food sensitization in the absence of organic disease:

1. Periodic itching of the nose or nasopharynx.
2. Exacerbation of typical symptoms which last at least two or three days.
3. Exacerbation of symptoms over and above a constant level of symptoms after a period of freedom of symptoms.

In this connection, it should be noted that symptoms of food allergy may last as long as 4 or 5 days from one ingestion of food, and that in some patients small amounts of an allergic food will bring on symptoms, while in other cases much larger amounts are necessary to bring on clinical effects. At times the

odor alone of a food is all that is necessary to cause symptoms.

Caution

Food allergy is an important cause of allergic syndromes, but is not in itself the sole cause of these symptoms. Inhalants, drugs, bacteria, pollen and foci of infection[2] may be at fault. Nervous or psychoneurotic manifestations, alone or in combination with various types of allergy, reproduce the different syndromes. This paper is a discussion of food allergy, but it must be clearly understood that the patient must be treated as a whole. As I pointed out in a previous paper, a complete and careful study from all angles is necessary in the handling of the allergic patient.[1]

History

The history is the most important aid in the determination of food allergy. The patient gives the leads, stating that certain foods are known to produce definite allergic manifestations. It is therefore important that a careful dietary history be taken. It is obtained, in part, in the first few interviews and later during the course of the observation. A food history should stress the following points:

1. Direct questioning as to known food idiosyncracy, or those foods which are suspects.
2. Specific questioning about known common offenders such as pork, fish, chicken, egg, milk, wheat, nuts, chocolate, potato, tomato, orange, cabbage, spinach, strawberry, and cherry.
3. Letting the patient fill out a chart[11] containing a complete list of foods, marking on this list those that definitely cause trouble, those that he suspects, and those that seem to be innocuous. This list has two main uses:
   (a) Calling attention to possible offenders which can be later followed up.
   (b) Giving a good idea of the foods that the patient eats.
4. Food diary.—A daily record kept by the patient of the foods eaten each day together with the nature and degree of symptoms for each day. Checking back, this frequently eliminates a difficult problem. The diary should also include any unusual activity for the day.

Skin Tests

Food skin tests are of definite value in many cases, but their value or lack of value depends on several factors.

1. Potency of extracts
2. Accuracy of testing and interpretation of the results
3. Knowledge of the limitations

When the first two points are known and accurate, food tests are indicative of allergy in only about 50 per cent of the cases.[8] A positive skin test may mean past sensitivity, present sensitivity, a potential sensitivity, or merely a skin irritation. Negative tests do not always rule out allergy to a food.

The basis of detecting food allergy is to control the symptoms, then add foods, which if responsible for allergic symptoms, will produce a demonstrable clinical effect. The skin tests play an important part in suggesting what foods to leave out initially and what foods to add later. A positive skin test in the presence of a corroborating history is of even greater significance. The skin tests must be interpreted in the light of the other findings in each case. In many of the simpler cases, however, no food tests may be necessary at all, sufficient information being obtained from the history as previously outlined, the basic or other planned diets by trial, and removal of common offenders.

Basic Diet Principle

A basic diet is not a liberal diet, but should be as adequate as possible in all nutritional aspects. Occasionally the basic diet is not balanced, but this should be followed for as short an interval as possible, new foods being added one at a time, concentrating first on making the diet balanced nutritionally. This diet is planned from foods which are less common offenders and must be modified depending on the history and the elimination of skin positive foods. If this gives a base line with freedom of symptoms, each new food should be added singly, twice a day if possible, and continued at least four days before it can be considered innocuous and new foods tried.

It must be remembered, in this connection, that one food may cause symptoms for four or five days and that no clinical symptoms may show at the initial servings of the food. A strict knowledge and control of the foods in the diet is essential. The method of preparation is vitally important. We frequently find patients who we believe are following the diet and who are eating the correct foods, but seasoning them with garlic, tomato, pepper, bacon, and other ingestants.

ELIMINATION DIETS OF ROWE[8]

Rowe has established a number of elimination diets containing a detailed list of foods, sample menus, and recipes. These diets are modified depending on the history and, where indicated, skin tests. The general follow up is similar to that outlined with the basic diet principle.

SUMMARY

1. A basic allergy diet is prepared from foods that are least common offenders, modified by a history of suspected foods, and elimination of common offenders and skin positive foods.

2. A food diary, recording foods and symptoms each day together with daily events which may be of importance, is helpful in the detection of food allergies.

3. The base diet must be balanced where possible from the beginning.

4. In some cases, the analysis of food allergy is more difficult and more elaborate observation may be necessary. Changing diets and elimination of certain items may be necessary.

5. Where the base diet controls symptoms in the patient suspected of food allergy, foods are added one at a time and observed for clinical effect. Sometimes one has to go back to the base diet when confusion exists.

6. Many cases of pollen allergy require seasonal control of food allergy before a satisfactory result can be obtained.

7. The general plan in the detection of food allergies is to find out what the patient can eat as well as what he cannot eat.

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Simple Device as Saver of Newborns.

A simple and inexpensive laboratory-made device which has proved lifesaving in the case of newborn infants with breathing difficulties is described in the October 21 J.A.M.A.

Tried in 79 cases, the instrument allows a maximum of safety and efficiency and can be used by obstetricians or anesthetists in a hospital or home, according to Dr. Ernest B. Emerson, Jr., of the department of surgery, University of Rochester School of Medicine and Dentistry, Rochester, N. Y.

"The results have been entirely successful in every case in which the respiratory distress was due to obstruction by foreign materials, such as mucus and blood," said Dr. Emerson. "In no case did complications develop from use of the apparatus itself, such as edema of the larynx and trachea or the bronchial perforation so dreaded in the infant when the more conventional metal aspirating tubes are used."

The instrument consists of a ureteral catheter with a cylinder tip, multiple openings on the sides and an oblique open end. This portion, which is inserted into the throat, is attached to a brass adapter with a suction device consisting of a rubber hose and rubber bulb. The obstructing material is removed by suction.

CORRESPONDENCE

A World That Works

"Doctors needed on a world front". December 7th, 1950 has many of the characteristics of December 7th, 1941, but we have had nine years to profit by our former mistake. A mighty force is again arrayed against us, the forces of appeasement are attacking our flanks and all the promptings of a thousand different suggestions are upsetting our minds. When war was declared in 1941 it was a relief, we had a sense of reality, a sense of unity. I believe we can get that answer to-day. Our founding fathers had it and it is our American heritage. It comes from the rightness of our cause and the determination and hardihood to see it through.

There is a double meaning to the phrase a world that works. There can be no true health unless there is work and its concomitant rest. But when we look closely at a world that teeters on the brink of World War III we begin to see the forgotten factor. Americans can defeat Communism if they remember America was founded on a spiritual basis.

"Virginia Assembly, 1619. . . ." "But for as much as man's affairs do little prosper where God's service is neglected, all the Burgesses took their places in the choir till a prayer was said by Mr. Bucke, the Minister that it would please God to guide and sanctify all our proceedings to His own glory and the good of this Plantation. . . ."

Again 150 years later, George Washington, to the General Assembly of Rhode Island, April 3, 1797 . . . "without the beneficent interposition of the Supreme Ruler of the Universe we could not have reached the distinguished situation which we have attained with such unprecedented rapidity."

Here was an addition that the Spartans with their ideal state missed. There is a certain piousness to the use of God's name at which the third Commandment strikes, unless we are willing as we use his name to morally rearm ourselves on the basis of absolute standards of Honesty, Purity, Unselfishness and Love.

The key to victory is a healthy nation, but health is impossible unless we team on an even larger basis than keeping America healthy. There will be no health for America in a sick world. The pulse of the world tells us something is wrong. Frankly we must have a way of life as simple as our American heritage that everyone can profess allegiance to before we release the tensions that make us neurotic.

The medical profession is a great body. I am proud in my association with these men and women. They have found, it is not socialized medicine they are fighting, not President Truman's brain child, or a plank in the Democratic platform. England has it, Socialism has used it for decades. It is a world force at war against our civilization, the sooner we realize it the better. We cannot go off to battle alone, amateur recruits without weapons or plans against trained leaders in a brand new school of social warfare.

The greatest strength of an army lies in coordinated team work and knowing why we are fighting. Our profession can set a pattern for a world that works just as we have in W.H.O. for the United Nations. Our successes so far do not lie in our own strength. There are selfish interests in medicine today that would have never succeeded in preventing the pouring of billions down the gullet of a welfare state. Our successes lie in the fact that we are beginning to find out "In God We Trust" is not a catch word phrase but it is what we as individuals, as a profession, as a nation live by. It differentiates us from the Godless ideologies of the "isms". On that basis health, the common denominator of nations, can prove to be the uniting link in the ideologies of democracies under God all over the world.

Will E. Chapin, M.D.
Richmond, Virginia.

MEDICAL SOCIETY OF VIRGINIA

PROCEEDINGS

1950 ANNUAL MEETING
Roanoke
October 8, 9, 10, 11, 1950

COUNCIL

The Council was called to order by Dr. W. C. Caudill, President. All members were present with the exception of Dr. Guy Horsley. Invited and present were Dr. Harry Warthen, Jr., Dr. J. M. Emmett, and Dr. Walter B. Martin.

The budget for the coming year was presented by Dr. W. A. Porter, who commented upon the various items. The budget of $66,515 was adopted.

Dr. Emmett then reported the activities of the Housing Committee, of which Dr. Warthen is Chairman. Dr. Emmett explained that the present quarters of the Medical Society of Virginia are not adequate, and that the Committee had made every effort to locate suitable quarters in the area of the Medical College of Virginia and the Richmond Academy of Medicine. It was felt that a building at 1105 West Franklin met all requirements. The price of $26,500 was not considered unreasonable. Dr. Emmett went on to say that although the Committee had the authority to authorize the purchase, it did not wish to exercise such at that time.

It was pointed out that the Richmond Zoning Board had declined to allow the house to be used for Medical Society purposes. However, all indications pointed to an early reversal of the ruling, especially since there was no public objection. The Committee requested permission to sign the necessary contract if all obstacles were eliminated.

After some discussion concerning the heating system and rental potentialities, it was moved by Dr. Harrell and seconded that the Committee be authorized to sign the contract. Dr. Warthen asked that the motion be amended to allow the Committee to continue its search, if the proposed purchase did not materialize. It was Dr. Caudill's opinion that perhaps the House of Delegates should be asked to approve the proposed transaction. The motion of Dr. Harrell was then passed.

Some concern was expressed by Dr. Emmett and Dr. King over the possibility of the Committee investigating other locations and then waiting for the Council to meet again. Dr. Walter P. Adams, Norfolk, therefore moved that the Housing Committee and the Executive Committee of Council be granted authority to act in the future if it should prove necessary. The motion was seconded and passed.

Dr. Emmett, Chairman of the State Procurement and Assignment Committee, then reported that committee's activities. He emphasized that the Committee served merely in an advisory capacity. No detailed instructions had been received from the Government, and a "proceed carefully" attitude had been adopted.

An invitation to address the Council was extended Dr. Walter B. Martin, member of the A.M.A. Board of Trustees. Dr. Martin expressed deep concern over the failure of the Virginia physicians to pay their A.M.A. dues. He brought out the fact that Virginia was faced with the prospect of losing one or two delegates to A.M.A. Only 35 per cent of the state membership had paid as of October 1, 1950.

In this connection, Dr. Archer moved that the Medical Society of Virginia go on record as recommending that every effort be made to collect A.M.A. dues. The motion was seconded and passed.

Mr. Johnson explained that secretaries of local societies were notified in January of the proper procedure for collecting A.M.A. dues. Dr. Hundley then moved that another letter be sent the component societies, insisting upon and outlining the proper procedure for payment of 1950 A.M.A. dues, and that Dr. Martin be requested to address the House of Delegates. Dr. Adams asked that the motion be amended to request local secretaries to read the letter before the local membership. The motion was then seconded and passed.

The report of the Committee on Blood Banks was presented by Dr. Hundley. It was moved, and seconded, that the report be adopted, and the motion passed.

Dr. Caudill then invited Mr. W. L. Painter, State Department of Welfare, to address the Council. Mr. Painter acquainted Council members with a new provision for federal aid to those totally and permanently disabled. It was anticipated that aid and advice from the medical profession would be needed, and Mr. Painter expressed the hope that the Council might be of some help in this respect.

Mr. Corbett Reedy, Supervisor of Vocational Rehabilitation, commended the Committee on Rehabilitation and endorsed Mr. Painter's request for help.

Dr. M. Pierce Rucker, Editor of the VIRGINIA MEDICAL MONTHLY, expressed his desire to have Dr. Ennion S. Williams continue as Assistant Editor. He also sought the advice of Council concerning the use of the front cover for advertising purposes.

A motion was made and seconded that Dr. Williams be reappointed as Assistant Editor of the *Journal*. This promptly passed.

At this point Dr. Roper read a letter from Dr. George Cooper, Jr., which was of some concern to the Depart-

ment of Clinical and Medical Education. The Cancer Committee desired that someone visit various communities, societies, etc., and felt that such a program should be sponsored by the Medical Society of Virginia. The Committee also felt that the Society should bear ten per cent of the cost. It was requested that the Committee on Clinical and Medical Education be authorized to proceed with such a project.

Dr. Rucker moved that such a project, without financial assistance, be endorsed by the Society. The motion was seconded and passed.

Dr. Caudill asked if members of the A.M.A. House of Delegates should not have the privilege of the floor in the House of Delegates of the Medical Society of Virginia, without the privilege of voting. The Constitution was read, and there was indication that the By-Laws would have to be changed before such a practice could be observed. It was decided to bring the matter up in the House of Delegates.

A proposal was made by Dr. Archer that committees be required to meet immediately before a Council meeting at least once a year. The consensus of opinion was that such a plan would not prove practical.

Dr. Archer then requested the advice of legal counsel concerning the liability of a local medical society and grievance committee in case action should be taken as a result of any decision the committee might make.

Following a final roll call, the meeting was adjourned.

HOUSE OF DELEGATES

(Although verbatim minutes, in so far as the court reporter could get them, are in our records, this condensation is offered with the hope that the membership can know of the salient topics discussed at our House of Delegates meeting in October.)

First Session

The House of Delegates of the Medical Society of Virginia met in the Hotel Roanoke Ballroom, Roanoke, Virginia, October 8, 1950, and was called to order at 8:10 p.m., by Dr. W. C. Caudill, President of the Society.

Dr. Caudill gave a brief explanation of the new system of identifying members of the House of Delegates through the use of buttons, with the expectation that business would be conducted more easily and efficiently.

The roll was called by Mr. Henry S. Johnson, Executive Secretary-Treasurer, and a quorum found to be present.

The minutes of the 1949 meeting were approved and passed without discussion.

Dr. Walter A. Porter presented the budget and commented briefly upon the various items. The total budget of $66,515 was unanimously adopted.

The question of A.M.A. dues was discussed by Dr. Walter B. Martin, Norfolk, member of the Board of Trustees of A.M.A. Stating that only 35 per cent of Virginia's physicians had paid their dues as of October 1, he cited A.M.A.'s fight against socialized medicine and also their numerous bureaus and services maintained for the progress of medicine and the benefit of the individual physician. All members of the Medical Society of Virginia were implored to pay their A.M.A. dues immediately.

The House next heard Dr. John M. Emmett, Clifton Forge, report on the work and progress of the Housing Committee in its search for permanent and adequate quarters for the Medical Society of Virginia. It was felt that a house at 1105 West Franklin Street, Richmond, answered the needs of the Society, and it would be a reasonable purchase at $26,500. The report of the Committee was approved unanimously.

Dr. Emmett then gave a report of the Committee on Procurement and Assignment. It was pointed out that very little information had been received from Washington, but that the Committee was ready to carry out any instructions. In this connection, Dr. Martin explained A.M.A.'s part in the so-called doctor-draft law, telling why the law was written, and how it should protect communities faced with serious doctor shortage. Considerable interest was evidenced, and the matter was discussed freely.

Dr. Caudill called for reports of delegates to special meetings and events and then introduced several distinguished visitors.

Next on the agenda were reports of standing and special committees. It was pointed out that since the reports were published in the September issue of the *Journal,* they would not be read unless the Committee chairmen wished to make any additions or comments.

Dr. J. Morrison Hutcheson, Chairman of the Judicial Committee, brought out the fact that at the last meeting of the House of Delegates, a special committee, headed by Dr. H. B. Mulholland, reported upon revision procedure in the House. The report was referred to the Judicial Committee, who found no conflict with the By-Laws, and recommended the report. It was moved that the report be adopted. The motion provoked considerable discussion, until it was determined that it did not change the Constitution but merely paved the way if a change were in order. The motion of adoption was then passed.

The various committee reports continued, and Dr. T. J. Tudor, Chairman of the Committee on Industrial Health, expressed concern over the difficulty experienced by persons approaching 65 years of age in locating employment. It was felt that some attention should be given this problem.

A proposal was made by Dr. C. Lydon Harrell, President-Elect, to amend the By-Laws in order that Society members who are officers of A.M.A. or members of the A.M.A. House of Delegates might sit with the House of Delegates of the Medical Society of Virginia and speak on any matters of the day.

Dr. Caudill next called for those reports not previously published. The last report was that of the Committee

to Confer with the Old Dominion Medical Society, and was presented by Dr. Vincent W. Archer, Chairman.

Dr. Archer outlined his Committee's views on the question of admitting colored physicians into the Society, and submitted a resolution providing that the word "white" be deleted from the Constitution.

It was moved and seconded that Dr. Archer's report be approved, and the question was then thrown open for discussion. Arguments were heard pro and con, and it was deemed wise to declare the House in executive session. The final vote was 53-30 in favor of adoption, but the motion was lost inasmuch as a two-thirds vote is required on any constitutional amendment.

Attention was then called to the matter of selecting a nominating committee, and arranging for the election of councilors from even-numbered districts. Dr. Caudill appointed a chairman from among the delegates of each district, who in turn met with the delegates of their respective districts, and selected one member for the nominating committee.

The nominating committee, as reported, was read, and the House of Delegates adjourned for the evening.

HOUSE OF DELEGATES

Second Session

The House of Delegates of the Medical Society of Virginia reconvened in the Hotel Roanoke on Monday, October 9, 1950, and was called to order at 2:15 p.m. by President Caudill.

Unfinished business was the first order of the day, and Dr. Caudill immediately called for those committee reports not made during the previous session.

The Nominating Committee report was given by Dr. Guy R. Fisher, who announced the nominees for Council and also those for the State Board of Medical Examiners. It was moved and seconded that the report be accepted. It carried unanimously.

Next on the agenda was the matter of electing a delegate to A.M.A., since Dr. Hutcheson's term was expiring. A motion was made and seconded that Dr. Hutcheson be reelected. This also passed unanimously.

Dr. Carrington Williams, Richmond, was nominated alternate-delegate to A.M.A. The nomination was seconded and Dr. Williams was elected by acclamation.

The Chair then recognized Dr. H. B. Mulholland, who introduced a resolution by which the Medical Society of Virginia would go on record as opposing "The entrance of the American Hospital Association into any part of the hospital inspection field that concerns professional qualifications or standards". It further resolved that the Society "recommends joint action and direction of a single inspection service of hospitals by such interested groups as the A.M.A., the College of Surgeons and the College of Physicians. It was recommended that the matter be brought to the attention of each component medical society and that copies of the resolutions be sent to all organizations concerned.

It was moved and seconded that the resolution be adopted, and the motion carried unanimously.

Dr. Harrell then moved that a committee be appointed to follow through on the above resolution. The motion was seconded and passed.

Mr. Johnson followed with a resolution to amend the By-Laws as proposed by Dr. Harrell. The amendment would allow members of the Medical Society of Virginia, who are delegates to A.M.A., to sit with the House of Delegates of the Society and enjoy the privileges of the floor. Dr. Harrell moved that the resolution be adopted, and his motion was seconded and passed unanimously.

The Chair next recognized Dr. M. S. Fitchett, Norfolk, representing the Second District, who moved that the Society, through its Legislative Committee, make an effort during the next Legislature to have the Medical Practice Act of 1944 changed. The proposed changes concerned graduates of unapproved medical schools, and the desire to delete all provisions pertaining to Chiropractors and Naturopaths.

The motion was seconded and opened for discussion. A substitute motion was offered by Dr. T. Dewey Davis, Richmond, which would refer the matter to the Legislative Committee. An amendment to this motion called for the Legislative Committee to report to the House of Delegates at its next meeting. The motion was seconded and adopted.

A resolution was then read by Dr. Hutcheson, recommending that the Medical Society of Virginia go on record as "supporting the position of the A.M.A. with regard to legislation for federal aid to medical education." It was moved and seconded that the resolution be adopted. The motion carried unanimously.

Dr. Edward E. Haddock, Richmond, introduced a resolution by which a nominating committee would be named from the membership of the Virginia Academy of General Practice to submit at least two names of eligible candidates for the title of "General Practitioner of the year in Virginia". Dr. Haddock moved that the resolution be adopted. It was promptly seconded and passed unanimously.

A motion was made by Dr. John T. T. Hundley, Lynchburg, whereby the Medical Society of Virginia would invite members of the Old Dominion Medical Society to attend regularly scheduled scientific sessions of the Medical Society of Virginia, when held at a location permitting the attendance of mixed racial groups. Arrangements would also be made whereby articles submitted by members of the Old Dominion Society would be published in the VIRGINIA MEDICAL MONTHLY "if and as merited." The motion was seconded and passed.

A resolution which would protect the physician who had served previously in the Armed Forces no matter in what capacity (other than an educational program) was introduced by Dr. Nelson. It was moved and seconded

that the resolution be adopted. The motion carried unanimously.

Dr. John O. Boyd, Jr., offered a resolution which would instruct the Committee on Medical Service of the Medical Society of Virginia to seek standardization of pre-payment health and hospital insurance policies in Virginia and also direct the Committee to make specific recommendations regarding minimum standards for such policies in its 1951 report. It was moved and seconded that the resolution be adopted, and after some discussion, the motion carried.

Another resolution was then presented by Dr. Boyd by which the House of Delegates of the Medical Society of Virginia would stress the importance of the District and Regional Councilors making sure information received from standing committees would be made known to local committees and local medical societies concerned. It was moved and seconded that the resolution be adopted. The motion carried unanimously.

Dr. Boyd followed with another resolution which would authorize the Chairman of the Medical Service Committee to appoint such sub-committees he deemed necessary to investigate, discuss, and make recommendations regarding any problems which concerned the Committee. The resolution would also have the Chairman appoint these men from the membership of the Medical Society of Virginia, subject to the approval of the President of the Medical Society of Virginia. The resolution was adopted unanimously.

A fourth resolution by Dr. Boyd concerned the advisability of standing committees of the Medical Society of Virginia holding their meetings in different sections of the state in so far as possible. Notice of the meetings would be made in advance, and any interested individuals invited to attend. The motion carried unanimously.

Invitations were extended the Medical Society of Virginia by the Norfolk County Medical Society and the Princess Anne Medical Society to hold the 1951 convention in their locale (Norfolk and Virginia Beach). It was moved and seconded that the invitation be accepted, and the motion carried.

Dr. Vincent W. Archer moved that the convention be held the second week in October, 1951. The motion was seconded and carried unanimously.

Dr. John A. Sims, Alexandria, moved that a rising vote of thanks be given the Roanoke Academy of Medicine and Hotel Roanoke for their cooperation and hospitality. It was also suggested that a resolution of thanks be written the Hotel and Local Society. An amendment was offered by Dr. Harrell, including Dr. George S. Hurt, Chairman of Local Arrangements, in the motion. This was accepted. The members of the House of Delegates then rose and applauded.

Dr. Caudill thanked the members for their cooperation and adjourned the session at 3:40 p.m.

COUNCIL

Post-Convention Session

The second Council meeting during the annual Convention was held on Wednesday, October 11, 1950, in the Hotel Roanoke. The meeting was called to order promptly at noon.

It was indicated by Dr. Harrell, President, that Dr. Adams would be chairman of the Executive Committee.

The matter of A.M.A. dues was discussed, and it was moved by Dr. King that Dr. Harrell prepare a letter on the subject. The motion was seconded and passed.

It was brought to the attention of Council that Dr. Caudill had been designated by the Virginia Council on Health and Medical Care as chairman of a committee to study hospital improvement. The Committee had been exploring the possibilities of helping the colored doctor, especially with regard to hospital training. Dr. Harrell thought the matter could be referred to the Department of Clinical and Medical Education.

A motion was introduced by Dr. Hundley whereby the chairman of the Scientific Committee would write A.M.A., stating that Scientific Exhibits at the Medical Society of Virginia Convention were excellent and would most certainly deserve recognition at the A.M.A. Convention.

Dr. King commended the Credentials Committee for their part in expediting business during sessions of the House of Delegates. It was further suggested that even more streamlining might be in order.

The question of room reservations at the Cavalier Hotel for the 1951 convention was raised, and Dr. Harrell voiced the opinion that the hotel should be requested to make no reservations for the Medical Society except as they cleared through the local committee on arrangements.

Dr. Harrell and Dr. Adams felt that the matter of exhibit prizes should be determined by the exhibitors themselves, and suggested a poll be taken in order to learn their feelings in the matter.

It was the opinion of Dr. Bell that members of the District Council should be appointees to the House of Delegates of the Society. The Council suggested that the component societies consider appointing the District Councilor to the House of Delegates whenever possible.

Mr. Johnson mentioned the possibility of having a small booth at the 1951 convention, to serve as a combination executive office headquarters and information desk. Dr. Hurt thought such a booth would be of great value.

Mention was made of an editorial published in a Roanoke paper, and it was suggested that it be reprinted in the Virginia Medical Monthly. The editorial commended the manner in which certain problems were handled in the House of Delegates.

Dr. Harrell named his Executive and Scientific Committees, and since no further new business was forthcoming, the meeting was adjourned.

THE MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

The State-Wide Public Relations Conference

The annual state-wide Public Relations Conference of the Medical Society of Virginia was held Friday, December 15, 1950, in the Roof Garden of Richmond's Hotel John Marshall.

Woven about the theme "The Practice of the Art of Medicine", the program featured addresses by Virginia's famed historian, Dr. Douglas S. Freeman, and the well-known author and news analyst from Raleigh, Mr. W. E. Debnam.

The seventy members attending entered into spirited discussion of problems of the day, ably led by two panels, each composed of a chairman and four members.

The morning panel, headed by Dr. Benjamin W. Rawles, Jr., Richmond, discussed "The Patient and the Doctor". The thought prevailed that a physician has a real civic, social and personal responsibility to his community and his patient. Of especial interest was the discussion concerning the necessity for some system whereby night and emergency calls would always be answered. The consensus seemed to be that since each locality had its own particular problems, it remained the responsibility of each community to establish a call system suitable to its needs.

The advisability of establishing a maximum fee schedule was brought up, and the question provoked considerable comment. The majority apparently felt that some type of control was advisable.

The afternoon panel, directed by Dr. John T. T. Hundley, Lynchburg, sought "A Workable Public Relations Program on the Local Level". The doctors displayed an eagerness to develop a constructive and progressive program to carry back to their local medical societies.

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,

Commissioner, Department of Mental Hygiene and Hospitals.

Treatment of the "Problem Child"*

In this country as well as elsewhere in the world the psychiatric treatment of children was comparatively unknown until the past twenty years. These two decades saw the development of the child guidance clinic as an American institution designed to meet the peculiar needs of therapeutic work with the troubled child.

In the evolution of the child guidance clinic with its unique structure and concept for working with emotional problems in childhood there came into being several developments which not only have contributed in great measure to the success of the child guidance concept of treatment of children but which also spread into many other areas of psychiatric practice. The psychiatric clinical team, for example, was first developed in the child guidance clinic. Here the team concept meets the need for a combined psychiatric, social work, and psychological approach to the difficulties of the individual child, a need arising from the conclusion that help for the child having problems in living involves working with his concept of himself as a person, with his parents who have contributed so much to that concept, and with his intellectual and emotional resources.

It is not easy for the troubled child to move into a meaningful therapeutic relationship with an adult about whom he has certain misgivings as a result of his parent's attitudes concerning his need to come to the clinic. It is, therefore, of great importance that

*Article prepared by Thomas A. Harris, M. D., Director of the Fairfax County Child Guidance Center, Falls Church, Virginia.

a sympathetic and understanding relationship experience is offered the child as he enters the child guidance clinic for help. To smooth his path to the clinic and to sensitize him to the significance of the experience, discussions between parent and child as to the "Why" and "What for" of their coming are necessary. The parent's initial interview with the social work member of the team is directed not only to helping him clarify his own feelings about the problem, but also to interpreting to him the understandings underlying clinic function. This latter step is necessary to assure the kind of parental insight which will result in the proper preparation of the child for his part in subsequent visits when both parent and child come together. Involved is a recognition by the parent that the child's problem is usually an expression of his difficulty in interpreting and handling his social realities—an expression of conflict between his personal needs and the demands others make on him.

Quite frequently the parent sees the problem as residing exclusively within the child's own personality structure rather than in the constellation or relationships in the family. In such instances, the social worker helps the parent to see his part both in the origin of the child's problem and in the process leading to its successful resolution. The understanding thus gained provides the parent with the necessary support and feeling to impart to the child a positive awareness of the meaning and significance of his anticipated clinic experience.

The child's first relationship experience at the clinic is with the clinical psychologist, who is interested in the emotional and intellectual resources which this child brings to the clinic. The clinical psychologist handles this initial contact between child and clinic with sympathetic understanding and acceptance for all that he brings. The child is encouraged to ask questions and is otherwise helped to express his feelings in connection with this first step of what may prove to be a really significant experience in his life. The psychologist's recorded observations and test results form a vital part of the case history upon which the psychiatrist and other members of the clinic staff base their decisions with regard to the nature of the child's problem and the helping procedures to be used.

Regardless of the nature of his problem the child approaches his first meeting with the psychiatrist with mixed feelings. A great deal of apprehension is nearly always present as an expression of his uncertainty and helplessness and as a reflection of the feelings in the family with regard to his problem. Many times he is struggling with a painful assumption that he is all bad with the implication that everything he does is rejected by those persons most significant in his life. Depending upon the nature of his preparation for this first interview with the psychiatrist, he may be loaded with guilt feelings over the trouble he has caused his parents. Always there is some resentment and hostility as a result of the accumulating frustrations associated with his problems.

To his part in the experience he is sharing with the child, the psychiatrist brings a keen sensitivity to the child's feelings. He is not only sensitive to these feelings but he stands ready to use his trained adult mind to help the child to express them fully for, until they are expressed, they stand as a barrier to any effective participation by the child in the clinic experience. In the presence of sympathetic interest in and acceptance of his feelings, the child finds himself free to respond to this adult encouragement and support of his participation in the relationship. He finds early in this relationship with an adult an active interest in his ideas and desires rather than the authoritative talking-down-to he had expected. As time progresses and he feels encouraged to let himself really into the hour, he finds his questions answered in a way that acknowledges his right to know all of the meaning of this particular experience. The child finds this particular adult deeply interested in his interpretation of why he has come to the clinic, while at the same time he is understanding if the child is unable to put this into words. The key to this situation is the lack of any need on the part of the psychiatrist for the child to be other than he is, and out of the sense of being liked and accepted, comes the child's freedom to change.

In the hours that follow at the clinic, the psychiatrist and the child are engaged in an examination of the child's ideas about himself and the world that surrounds him. This is not ordinarily an intellectual process but proceeds through the media of activities which fill the hours, activities in which the child is given every opportunity to express himself in his own way. Certain hours will be filled with manipulative play with toys; others, with painting

and drawing—all of which communicate the inner world of the child to the trained eye and ear of the psychiatrist. The psychiatrist in return constantly seeks to translate the child's expressions into words. He attempts to verbalize the meaning of the child's various activities and to give fuller expression to the child's feelings through constant acceptance and support of his activities. The psychiatrist's explanations relate the child's activities to his need for change. This change may involve the giving up of out-moded and immature patterns of relating to others or of a disturbing pattern of behavior. If the problem for which he was brought to the clinic is lying, stealing, or some other form of socially unacceptable behavior, he comes to recognize the need to which that particular behavior is a response, and to learn more acceptable and satisfying ways of meeting this need.

During his hours in the clinic the child has participated in an experience which can serve as a pattern for more satisfying relationships with his parents and others. For this experience to be truly helpful, and indeed to prevent its being actually harmful, the child must receive constant support in his efforts to modify his behavior in his everyday life. It is through their simultaneous relationship with the social worker that the parents gain that insight into their child's behavior and appreciation of the need for greater acceptance and recognition of his individuality which makes it possible for them, too, to change and in changing to encourage the child in his attempts to deal adequately and acceptably with his problems.

The child, as he develops in relation to the realities of home, school, and community needs and relies upon the strength and understanding of the adult to provide him with the opportunity for the constructive use of his aggressive self-definition. At the same time, he feels his inadequacy to cope with the greater strength of the parents with the resulting need to erect his own defenses against them. Some of these defense behavior reactions are expressed in the day-to-day interchange between parent and child. These aggressive behavior reactions are the expressions of an expanding individuality with great potentials for creative achievement where the situation is not seen as a twig to be bent or clay to be molded by the will of others.

We are living in a time of great social change in which there is an increasing consciousness everywhere of the rights of the governed to participate in their government and for the individual to greater self-determination. The rights and dignity of the individual person is an increasing cultural concern of many nations. The extension of this spirit into the home is reflected in the growing interest in, and requests by parents for help in the more effective definition of their roles. The problems of maintaining wise controls, of sharing and of constructive permissiveness for the freedom loving child is a difficult one for modern parents in the face of shifting social values of the past three decades. In the actual day-to-day setting, these problems may be expressed in the child's "fresh talk" and his "I hate you" or "you don't love me anymore". Where the parent can achieve a balance between aggressive feelings that need expression and aggressive demands which frighten even the child, the constructive possibilities in this critical interpersonal situation will prevail.

The unique interpersonal experience the parent and child will find at the child guidance clinic will outline and stress the positive aspects of the parent-child relationship for a happier, emotionally healthy child and a more satisfying role of parent.

BOOK ANNOUNCEMENTS

The Development of Gynaecological Surgery and Instruments. A Comprehensive Review of the Evolution of Surgery and Surgical Instruments for the Treatment of Female Diseases from the Hippocratic Age to the Antiseptic Period. By JAMES V. RICCI, A.B., M.D., Clinical Professor of Gynaecology and Obstetrics, New York Medical College; Director of Gynaecology, City Hospital, New York; etc. Philadelphia, The Blakiston Company. 1950. ix-594 pages. Illustrated. Cloth.

The Cystocele in America. A Critical Analysis of the American Literature on Cystocele and Prolapse. By JAMES V. RICCI, M.D., Clinical Professor of Gynaecology and Obstetrics, New York Medical College; Attending Gynaecologist, City Hospital, New York; Consultant in Gynaecology and Obstetrics, Beekman-Downtown Hospital; Director of Gynaecology and Obstetrics, Columbus Hospital. The Blakiston Company, Philadelphia. 1950. xi-435 pages. Cloth.

Diagnosis in Gynaecology. A Classification of Gynaecological Diseases Based on Aetiology and the Clinical Logic for Diagnosis. By JAMES V. RICCI, A.B., M.D., Clinical Professor of Gynaecology and Obstetrics, New York Medical College; Director of Gynaecology, City Hospital, New York; etc. Philadelphia, The Blakiston Company. 1950. x-259 pages. Cloth.

Natural Childbirth. A Manual for Expectant Parents. By FREDERICK W. GOODRICH, JR., M.D. Prentice-Hall, Inc., New York. 1950. xii-176 pages. Illustrated. Cloth. Price $2.95.

Physician to the World. The Life of General William C. Gorgas. By JOHN M. GIBSON. Duke University Press, Durham, N. C. 1950. ix-315 pages. Illustrated. Cloth. Price $4.50.

When Minds Go Wrong. A Simple Story of the Mentally Ill—Past, Present and Future. By JOHN MAURICE GRIMES, M.D., Chicago, Illinois. First Edition. Illustrations by K. Alexandria White. Published and Printed by the Author. 1949. 237 pages. Cloth. Price $5.00.

Color Atlas of Pathology. Hematopoietic System; Reticulo-Endothelial System; Respiratory Tract; Cardiovascular System; Liver; Alimentary Tract; Kidney and Urinary Tract; Musculoskeletal System. Prepared under the auspices of the U. S. Naval Medical School of the National Naval Medical Center, Bethesda, Maryland. Philadelphia, J. B. Lippincott Company. 1950. xi-546 pages. Illustrated with 1053 figures in color on 365 plates. Cloth. Price $20.00.

The Rhesus Danger: Its Medical, Moral and Legal Aspects. R. N. C. McCURDY, M.D., Ch.B., D.P.H. London; William Heinemann, Ltd. 1950. 138 pp. Price 5 shillings.

This little book apparently contains about everything that can be said about the rhesus factor in our present state of knowledge. The author himself has lost two children from erythroblastosis fetalis, as we prefer to call it in this country.

The book is divided into two parts, medical and sociological. Both parts are written in plain simple language that should be appreciated by both the lay and medical public. He begins with an excellent description of Mendelian laws and blood groups with an interesting history of the development of our knowledge in these fields. There are at least 120 different types of Rh blood grouping and to account for these mathematically, three dominant genes, C, D and E and three recessive Rh genes c, d and e have had to be invented. Experiments have been performed on men and upon women past the menopause to see how readily they may be sensitized to the Rh factors. One drop of Rh positive blood will produce antibodies in 50 per cent of the cases. On the other hand repeated transfusions fail to produce sensitivity in a few persons. The actual frequency of haemolytic disease varies from about 1 to 150 deliveries to 1 to 200. The infants with the disease may show various forms, from still births with characteristic edema to mild anemia. The changes in the brain are probably the most serious from every angle. Should the infant survive, it may be feeble minded, deaf or develop other deformities. The basal nuclei show a yellow discoloration, which is due primarily to dead or damaged tissue taking on bile pigment. The jaundice is not considered a causative factor.

In part two the author discusses the bearing of rhesus incompatibility in reference to contraception, sterilization, abortion, adoption, artificial insemination, divorce, and population problems. The author's sound attitude is well illustrated by the concluding paragraph in his chapter on sterilization. "It would be hard to justify sterilization in Rh incompatibility, and it would in addition be a counsel of despair to try to do so, for until a wife is past child-bearing age there is always the possibility that medical science will discover some way of preventing the development of haemolytic disease in a child before birth, which would enable the couple to have normal children."

The book has a full bibliography and an excellent index.

M.P.R.

Principles of General Psychopathology. An Interpretation of the Theoretical Foundations of Psychopathological Concepts. By SIEGFRIED FISCHER, M.D., Clinical Instructor in Psychiatry, University of California. Philosophical Library, New York. 1950. xxi-327 pages. Cloth. Price $4.75.

This book presents general psychopathology in a clear, concise, readable form which is excellent for reference or review. Definitions of terms are well done and their varying interpretation by different schools of thought recognized. The interlocking relationship and dependence of psychology, clinical psychiatry, and psychopathology is emphasized. Freudian concepts are utilized but the book does not indicate complete acceptance of this school.

Within the limitations of a rather small book for this large subject, the author has managed to pack an enormous amount of up-to-date information and has tempered it with his own clinical experience. Many controversial subjects are of necessity treated briefly and the interested reader would find further reading necessary.

L. H.

PUBLIC HEALTH

L. J. ROPER, M.D.,

State Health Commissioner of Virginia.

The report of the Bureau of Communicable Disease Control of the State Department of Health for December 1950 as compared with the same month in 1949, and for the period of January through December 1950 as compared with the same period in 1949, is as follows:

	Dec. 1950	Dec. 1949	Jan.-Dec. 1950	Jan.-Dec. 1949
Typhoid and paratyphoid	4	4	88	148
Diarrhea and dysentery	97	196	3,741	5,870
Measles	274	57	2,947	21,393
Scarlet fever	119	126	937	861
Diphtheria	18	44	191	220
Poliomyelitis	43	7	1,197	337
Meningitis	8	5	120	84
Brucellosis	6	4	64	73
Rocky Mountain spotted fever	1	0	76	101
Tularemia	7	10	44	40

TRENDS IN COMMUNICABLE DISEASE MORBIDITY IN VIRGINIA 1920-1950

At the beginning of a new year it is well to take inventory to determine what measures are effective in the control of communicable diseases and in what fields control measures are lacking. The following table lists reported cases of certain communicable diseases in Virginia over a thirty year period:

The year by year drop in the number of cases of diphtheria reported in Virginia and the disappearance of smallpox in morbidity reports are due undoubtedly to active immunization of children in their early years. The principal factors in the lowered morbidity from typhoid are the maintenance of good environmental sanitation, the safeguarding of milk and water and the control of typhoid carriers.

In contrast, the high incidence of poliomyelitis emphasizes the lack of specific control measures. When an effective immunizing agent is developed for this disease it will fall into the group of preventable diseases like diphtheria and smallpox.

In Virginia we have been fortunate in having no human rabies reported since 1947, but the presence of rabies in animals (especially dogs) as evidenced by positive laboratory reports creates a continuing potential danger. The 94 reports of rabies in animals in Virginia in 1950 came from 21 counties and 1 city in the State.

The decline in the number of scarlet fever cases reported is possibly due to the widespread use of the antibiotics which, given early, so modify the course of the disease as to make diagnosis difficult.

DISEASE	1920	1930	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
Diphtheria	4,370	2,210	709	754	699	395	329	577	548	273	265	220	191
Measles	9,488	14,656	4,171	35,600	4,930	12,595	17,116	1,625	13,443	8,000	7,749	21,393	2,947
Poliomyelitis	122	119	241	155	43	61	756	335	143	173	567	337	1,197
Rabies—Animal	28	78	72	22	89	277	334	113	108	162	158	82	94
Rabies—Human	0	1	0	1	0	1	1	2	1	2	0	0	0
Rocky Mt. S. Fev.	*	*	46	33	47	56	81	99	93	67	64	101	76
Scarlet Fever	2,280	3,114	1,781	1,715	1,637	1,842	2,969	4,246	2,721	1,316	899	861	937
Smallpox	3,559	264	5	0	0	0	1	0	0	0	0	0	0
Typhoid Fever	1,888	1,413	256	319	242	198	127	158	116	124	110	116	68
Whooping Cough	*	8,389	2,902	4,327	2,405	5,060	2,719	2,749	3,058	4,234	2,271	1,378	3,292

*No records available.

EDITORIAL

John Jacob Abel (1857-1938)

PHARMACOLOGY is one of the youngest of the medical sciences. It employs the methods of the chemist and the physiologist and it replaced materia medica in the medical curriculum. Before the advent of pharmacology our knowledge of drugs was extremely vague. For instance, the belief that alcohol was a stimulant went on for years. The pharmacologist debates such questions but spends his time discovering useful and potent drugs such as sulfanilamide, penicillin and aureomycin.

John Jacob Abel, the "Father of American Pharmacology", was born May 19, 1857 near Cleveland, Ohio. His family came from the Rhine Valley. He received his Ph.B. from the University of Michigan in 1883, having in the meantime been principal of the high school in LaPorte, Indiana, where he taught Latin, mathematics, physics and chemistry. In LaPorte, he met and married Mary Hinman, who for 55 years was a help-meet in every sense of the word. She stood by his side through many tribulations and encouraged her husband to acquire a broad, medical and scientific education. Abel's happy family life was a potent factor in his scientific career.

His medical education began with a year in Physiology under Newell Martin at Johns Hopkins. The next seven years he spent with some of the leading teachers in the medical schools of Europe—Leipzig, Heidelberg, Berne, Vienna, Würzburg, Berlin, Paris and Strassburg where he took his M.D. in 1888. Since there were few full-time positions in American medicine, Abel spent another year "walking the wards" in Vienna in case he would have to make a living practicing medicine when he returned to this country. However, this proved to be unnecessary as in 1891 he was offered the chair of Materia Medica and Therapeutics at Michigan which he occupied for two years. When the Medical School at Hopkins opened, he was appointed the first professor of Pharmacology. When he retired in 1932, he became emeritus professor and director of the Laboratory for Endocrine Research, which was created especially for him. He died May 26, 1938, rich in honors and awards.

His researches covered a wide field; composition of animal tissues and fluids; isolation and function of special chemical principles of the animal organism; ethyl sulphide; carbonic acid; pigment of Negro's skin; isolation of the blood pressure raising constituents of the adrenal glands; studies in experimental trypanosomiasis; action of convulsant dyes; researches on the lymph hearts of frogs; researches on vividiffusion and plasmaphaeresis; crystalline poisons of Bufo Aqua; albumoses in the tissues; occurrence of histamine and histamine-like substances in animal tissues and among the hydrolytic products of proteids; researches in tetanus; the nature of the active principle of the pituitary gland; insulin; and in 1897 the benzoyl of the active principle of the adrenal medulla. This was the first time a hormone of any endocrine gland had ever been isolated. It has recently been found, after all these years, that this was not one substance but two—epinephrine and nor-epinephrine. This only goes to illustrate the difficulty of the subject. He was also the first to obtain insulin in pure crystalline form.

Dr. Abel found his greatest enjoyment in actively carrying on his research with his own hands. An explosion in his laboratory caused the loss of an eye and, the first time we ever saw him, he wore a black patch over one eye. If we remember correctly he got an artificial eye in the summer vacation. It was a perfect match, and we boys were

curious to know which was the good eye. Dr. Abel was so straight forward in everything he did, in his dealing with his class, in his thinking, in the way he looked at you that we were never able to decide which was his glass eye. Even with only one eye he could see further into the future than most people.

In 1913 he made an artificial kidney which he used upon laboratory animals. When in 1914 he noted that mamalian red blood cells retained their stability for three or four days if kept on ice, he suggested that a supply of human corpuscles might be kept in this way in operating rooms for use in cases of emergency.

Dr. Abel took very little interest in organizations and committees but was very much interested in scientific journals. He was associate editor of the *Journal of Experimental Medicine* when it was first established. He founded the *Journal of Biological Chemistry* in 1905 and the *Journal of Pharmacology and Experimental Therapeutics* in 1909. He was a founding member of the American Society of Biological Chemists and founded the American Society of Pharmacology and Experimental Therapeutics. The University of Michigan, Pittsburgh, Harvard, Yale, Lwow, Cambridge and Aberdeen conferred honorary degrees upon him. He was awarded the first Research Corporation prize, the Willard Gibbs, Conné and Kober medals and the medal of the Society of Apothecaries, London. He was an honorary member of six American and fourteen foreign scientific societies. His last honor, Foreign Member of the Royal Society, London, was received the day of his death. He had come a long way from a principalship of a small town high school in the mid-west. He had lived a life full of happiness and accomplishment.

Biological Warfare

BIOLOGICAL warfare may be directed against man, animals or crops. The agents employed may be bacteria, viruses, rickettsiae, fungi, protozoa or soluble toxins. They may be introduced by open attack or by sabotage, either independently or in connection with a bomb attack. It may be a deliberately planned attack or the enemy may take advantage of a naturally occurring situation and increase the disastrous effects of the disease by interfering with normal control measures. Biological warfare may be used either as an offensive weapon or a defensive measure. There is nothing particularly new about biological warfare; nature has been using it for thousands of years against man and man has now learned how to combat it successfully for the most part. World War II is the first war that was not complicated by an epidemic.

The first deliberate use of biological warfare occurred around Pittsburgh in the French and Indian war. The British innoculated some Indians with smallpox and turned them loose to spread the disease among the surrounding tribes. Here the conditions were ideal, for the Indians presented virgin soil for the disease, and the result was apparently satisfactory, from the English point of view. According to Benjamin Franklin, they tried the same trick in Virginia in the Revolutionary War. This time the English used negro slaves, sending them back to their homes after having inoculated them with smallpox. This time the measure was not successful, as no wide spread epidemic developed. The most successful biological warfare has been waged naturally by yellow fever in defensive operations. It defeated the English in the West Indies in 1762 and Napoleon's picked troops in 1800.

An important side of biological warfare is the psychological aspect. Just the mention of the subject brings to mind the great epidemics of the past; bubonic plague, the

black death of the middle ages, pandemics of Asiatic cholera, and epidemics of yellow fever that formerly spread terror along the Atlantic seaboard and up the Mississippi valley. In war time people are subject to mass hysteria. Rumors are easily started and hard to stop. An instance of this occurred in the Civil War. A well known gynecologist was accused of planning to poison the water of the Croton reservoir. There was no proof whatever of the charge, but he was ostracized and expelled from connection with his medical societies. It was not until several years had passed and the people had somewhat recovered their senses that he was restored to his former positions.

Last fall Drew Pearson mentioned in his broadcast a rumor that yellow fever was rampant among Korean troops. This seemed extremely unlikely, for there was no known case of the disease closer than the West coast of Africa. Furthermore, the weather had already gotten too cold for mosquitoes. We were interested to know how such a rumor started. Dr. Pearson simply wrote in answer to our inquiry that the rumor was a mistake. We have an interesting letter from Dr. Arthur R. Turner of the Preventive Medicine Division to the effect that there has never been a case of yellow fever in Korea at any time. While there have been identified five species of *aedes* in Korea, and a sixth is said to occur occasionally, the *Aedes aegypti* (the vector of yellow fever) is not to be found there. "The report by Drew Pearson a few weeks ago, in his radio broadcast, that yellow fever had broken out among Communist troops in North Korea has received no confirmation from any source."

Nothing came of the Drew Pearson rumor, but the people are "jumpy" and there is no telling what their reaction to a false rumor may be. According to the newspapers, a recent rumor that the Birmingham water supply had become contaminated seriously interfered with the normal operations of the health department until the local broadcasting companies announced every 15 minutes that there was no foundation to the rumor.

Biological warfare is cumbersome and uncertain, slow in action, and subject to scarcely any control. To start an epidemic among human beings, animals or plants the conditions must be just right. On the other hand chemical warfare is easier to manage and quick in action. It seems likely that an enemy would choose the latter, but you must not expect an enemy to be logical. We must be prepared for any eventuality, and the best protection against biological warfare is a fully manned health department. It would be a mistake to curtail public health activities at this time in the interest of economy. Rather they should be built up to full capacity. They should be prepared to offer protection against botulinus toxoids, smallpox, tularemia, plague, typhus fever, Q fever, yellow fever, cholera, psittacosis and brucellosis.

The Bureau of Animal Industry and the Bureau of Entomology and Plant Quarantine of the Department of Agriculture are also important agencies in the defense against biological warfare, and should be maintained at full strength. Fortunately, the likelihood of curtailing the appropriations for these bureaus is not great, for the Department of Agriculture has always received its necessary appropriations.

Financial Aid to Medical Schools from A.M.A.

At the meeting of the House of Delegates of the American Medical Association in Cleveland, December 5-8, 1950, a resolution was introduced instructing "the Board of Trustees to study the feasibility of establishing a fund for aid to Medical Schools to be created by voluntary contributions or by allotments from annual dues,

such fund to be administered by the Board of Trustees or contributed to the National Fund for Medical Education, Inc."* This resolution was adopted and after consideration the Board recommended that half a million dollars from the National Education Campaign Fund be appropriated for the aid and support of Medical Schools that are in need. This proposal was passed unanimously by the House of Delegates.

Though this action constitutes a new departure in the activities of the A.M.A., it is by no means inconsistent with the fundamental principles and established policies of that organization. For more than a hundred years the A.M.A. has had as a main objective the advancement of standards of the Nation's Medical Schools and for many years, through its committee on Medical Education and Hospitals, it has expended annually more than a quarter of a million dollars of its funds for the improvement of Medical teaching. It is clear therefore that the purpose of this appropriation is that of maintaining and elevating standards that have been attained and to which the association is committed.

Contrary to what has been frequently stated by critics, the American Medical Association has not unequivocally opposed Federal Aid to Medical Education. Certain measures in the form of bills that have been under consideration by Congress have been opposed for specific reasons. These bills are objectionable because their provisions would inevitably lead to Federal Control with the establishment of a political grab bag that would ultimately result in deterioration of the quality of Medical teaching. The A.M.A. further believes that Federal Aid should not be sought until all other possible sources of help have been exhausted. It is felt that private means can and will meet the need provided proper effort is made in this direction.

This National Education Campaign Fund was raised for the purpose of defending Medical freedom against the inroads of Federal interference and control. An attempt has been made to convince the American People of the dangers inherent in Federal Subsidies and of the advantages of a free system. That this effort has been successful is evidenced by wide spread public cooperation with the result that major legislation looking toward regimentation of the medical profession has failed of passage. It is felt that in contributing its own funds the A.M.A., representing American Medicine, is keeping faith with the American people who have supported it so generously and is demonstrating the sincerity of its purpose to continue the fight to keep its institutions free.

It is believed that an understanding of this significant action will stimulate other groups and individuals to contribute to the cause of preserving the freedom and maintaining the standards of our Medical Schools. Already a considerable sum has been pledged without solicitation. Final plans for the distribution of this fund in accordance with demonstrated need have not been perfected but an announcement in this connection may be expected in the near future.

J. M. H.

*The National Fund for Medical Education is an independent non-profit organization set up for the purpose of providing financial aid to Medical Schools.

Floral Eponym
Ambrosini, Bortolomeo
AMBROSINIA

Ambrosini was a Bolognese botanist of the XVII Century. Linnaeus named the genus Ambrosinia in honor of him.

Ambrosinia is a dwarf perennial tuberous herb of Italy and Algeria.

President's Message

PUBLIC relations is becoming a very important part of our State Society. It is a pity that such a small percentage of our membership takes an active part in its proceedings. You cannot expect the Director of Public Relations and a few from each district to carry the entire burden. Each and every one must do his part if we wish to accomplish our aims.

If the medical profession had started several years ago to understand the public's viewpoint and to explain our view, or to understand each others needs and desires, we would not have gotten into the dilemma that we find ourselves in today.

The Legislative Committee of the American Medical Association's Washington office met on November 29, 1950, at White Sulphur Springs, West Virginia. Dr. J. M. Emmett, Mr. Henry Johnson, and your president attended this meeting. It proved to be a very interesting and informative gathering. The chief topic of discussion at the morning session was "Federal Aid to Medical Education". Dr. Joseph Lawrence, who conducted the session, was of the opinion that a bill giving government aid to Medical Education will pass the next Congress. The reasons given were, first, medical schools are badly in need of financial assistance. Second, a majority of the deans of the medical schools are in favor of the bill. Third, several very strong organizations are behind this bill, as the Veterans Administration, American Legion, and others. All those present went on record as being opposed to Federal Aid for Medical Education, as it would put medical schools under government control and in the hands of politicians, a thing which would be most undesirable.

When your instructors in medicine are appointed by the politicians, and when a student applies to his congressman to enter a medical school instead of to the dean of that school, medical education will be *rotten* to the *core*. That is what you may expect under government control.

The contribution of a half a million dollars by the A. M. A. to medical education was a grand idea. It will go a long way towards softening public opinion in favor of the profession. It lets the public know that we see and feel the real, immediate need of financial aid to medical education. Their suggested methods of raising additional funds was also an excellent idea, if it will work. To raise sufficient funds to supply the needs of all the medical schools by voluntary contributions, whether they come from private sources, wealthy foundations, or from industry, is a dream to be realized in the far distant future.

The writer feels that the responsibility of medical education lies with the States. It is most certainly true in Virginia. The sooner the public realizes that the expense of all education, academic and medical, must be supported by public funds, the sooner will we have a sound, financial educational program. The writer also feels that a general sales tax is the easiest and surest way of financing education. All will share the expense; all will share the benefits.

We must keep politics out of our educational program, but we ought to have more education and better medicine in reach of our politicians, if we wish to have a healthy political life.

If you believe in a sales tax to support our educational program, discuss the matter with the members of the State Legislature and with members of the State Senate before the Legislature convenes next January.

Dr. Lawrence stressed the importance of all physicians keeping themselves informed

on all bills introduced in Congress which pertain to the Medical Profession and to Public Health. Write your congressman for a copy of the bills. After reading the bills, write your congressman your views. This is the only way they have of getting the public's view. Do not quiz them; inform them.

C. L. HARRELL, M.D.

SOCIETY PROCEEDINGS

The Fourth District Medical Society,

At its meeting on December 19 at Central State Hospital, Petersburg, elected the following as officers for the ensuing year: President, Dr. R. H. Bracey, South Hill; vice-presidents, Dr. F. M. Howell, Hopewell, and Dr. J. G. Graziani, Farmville; secretary-treasurer, Dr. James Thweatt, Petersburg; and chairman of the Steering Committee, Dr. Tyree Finch, Farmville.

The Lynchburg Academy of Medicine

Held its regular monthly meeting on January 8, at which time the new officers presided. Dr. Edward B. Tuohy of the Department of Anesthesiology of Georgetown University Hospital, Washington, spoke on "Anesthesia Management". The officers for 1951 are: President, Dr. J. W. Davis, Jr.; president-elect, Dr. E. S. Groseclose; vice-president, Dr. Wm. S. Hooten; secretary, Dr. Edwin A. Harper; and assistant secretary, Dr. Frank N. Buck, Jr. Dr. J. R. Gorman and Dr. J. E. Haynesworth were elected to three year terms on the Board of Trustees. Delegates and alternates were also named to the State meeting in October.

Medical Society of Northern Virginia.

At the last meeting of this Society on December 12, delegates and alternates to the next meeting of the State Society were elected and the officers were elected for the following year: President, Dr. George Long, Luray; vice-president, Dr. Frank Tappan, Berryville; and secretary-treasurer, Dr. Frank W. Gearing, Jr., (re-elected), Woodstock.

The Northampton County Medical Society

Held its regular quarterly meeting on January 11, at which time the following were elected as officers for 1951: President, Dr. John R. Freeman, Cape Charles; vice-president, Dr. Charles Robertson, Cape Charles; secretary-treasurer, Dr. E. M. Henderson, Nassawadox. Dr. H. L. Denoon of Nassawadox was named a member of the Board of Censors for a term of three years, and Dr. W. C. Henderson of Nassawadox was named Public Relations officer.

JOHN R. MAPP, *Retiring Secretary*

Roanoke Academy of Medicine.

Dr. E. G. Gill presided at the January meeting of the Academy, at which time the following program was presented:

- Presentation of Clinical Patient—Detachment of Retina—Drs. Gill, F. D. White and R. D. Mertz
- Case of Lymphedema—Dr. Charles B. Hooker
- The Use of Male Sex Hormones in the Suppression of Lactation in the Postpartum Female—Dr. Rufus Ellett
- Analysis of Cases Encountered in General Practice—Dr. William Foster
- Experience in Prefrontal Leukotomy—Dr. Eugene M. Caffey

The Tazewell County Medical Society,

At its regular December meeting, elected the following officers for 1951: President, Dr. L. L. Thompson, Richlands; vice-president, Dr. M. B. Crockett, Tazewell; and secretary-treasurer, Dr. Mary E. Johnston (re-elected), Tazewell. Delegate and alternate to the annual meeting of the State Society were also elected at this time. Dr. J. K. Morrow of St. Albans Sanatorium, Radford, addressed the Society on "The Resources of Psychiatry".

Warwick County Medical Society.

This Society held its regular monthly meeting on January 9 at the James River Country Club. Dr. James Thomson of Norfolk was the guest speaker, his subject being Rupture of Lumbar and Cervical Nucleus Pulposus. Fifty-three members and eight guests were present. Dr. William H. Woodson and

Dr. O. Watts Booth are president and secretary-treasurer, respectively.

Wise County Medical Society.

Members of this Society were guests of the Stonega Coke and Coal Company for dinner at the hotel in Appalachia on the evening of December 6. Thirty-one were present. A splendid exhibition of ventriloquism was put on by James Grubb and his "Gabby". Dr. Thomas Kuhnert of Bristol gave an excellent illustrated lecture on Coxa Plana. The host, Dr. W. B. Barton, presented from his hobby shop a hand carved and painted mahogany serving tray. Dr. T. J. Tudor drew the lucky number and also presented a report of the Roanoke State meeting.

J. D. Culbertson, *Secretary*

The Smyth County Medical Society

Held its regular meeting on December 20, with Dr. C. C. Hatfield of North Holston presiding, and Dr. Potter at the secretary's desk. A report was made on the blood bank, it being stated that eleven pints of blood are in the refrigerator at Lee Memorial Hospital. Dr. Walter Schiff of Marion was appointed as the Society's representative to the ACTH Conference. Dr. R. C. Potter of Marion reported on the annual Public Relations Conference and called especial attention to the Grievance Committee. Dr. W. O. Neal of Chatham Hill was voted an honorary member. Officers elected for 1951 are: President, Dr. R. H. Harrington, Marion; vice-president, Dr. R. C. Potter, also of Marion; and secretary-treasurer, Dr. Don Greever, Chilhowie. Dr. E. V. Richardson of Marion was named to the Board of Censors for a term of three years, and delegate and alternate to the State meeting were chosen. Dr. Hatfield then gave his presidential address, following which Dr. Boatwright of Marion expressed appreciation of Dr. Hatfield's leadership.

NEWS

The Tri-State Medical Association of the Carolinas and Virginia

Is to hold its annual meeting at Columbia, South Carolina, February 19 and 20, with headquarters at Columbia Hotel. Dr. R. B. Davis of Greensboro, North Carolina, is president and will preside at the various sessions. Those who wish help with their reservations should write Dr. W. C. Cantey, chairman of the Committee on Arrangements, Columbia.

Meeting at Hot Springs, Virginia.

Announcement has been made of the Sectional meeting of the American College of Surgeons on February 26 and 27 at Hot Springs, Virginia. This section embraces the entire southeastern region of the United States. Surgeons and members of the medical profession at large are invited to attend. Dr. Claude C. Coleman of Richmond is chairman of the committee on arrangements. There will be medical motion pictures, scientific papers and panel discussions. A dinner will be held on the first evening, at which Dr. Henry W. Cave of New York, president of the College, will preside. This will be the second sectional meeting of the College for 1951, the third meeting to be in Philadelphia, March 5, 6 and 7.

Scientific Exhibits.

Dr. Charles H. Peterson, chairman of the Committee on Scientific Exhibits of the Medical Society of Virginia, announces that the Committee will now receive applications for scientific exhibits for the October meeting of the Society at Virginia Beach. The deadline for applications will be June 15th. The executive committee will then choose those to be shown and notify the exhibitors by July 1st. This will be necessary because of the limited space at disposal for scientific exhibits. Applications should be sent to Dr. Eugene L. Lowenberg, 100 Medical Arts Building, Norfolk 10, chairman of the local committee for scientific exhibits.

State Health Department News.

Dr. F. A. Blesse assumed his duties as Health Officer of Henrico County, effective January 22, replacing Dr. R. M. Wilson who resigned on December 1, 1950.

Dr. Leon Leclerc assumed his duties as Health Officer of the Appomattox-Buckingham-Cumberland Health District effective January 4 with headquarters in Appomattox.

Dr. Frederick J. Spencer is Acting Health Officer of the Giles-Montgomery-Radford Health District,

replacing Dr. F. C. Heath who was transferred to Fairfax County, December 1, 1950.

Effective January 2, Rappahannock County is being joined with Fauquier and Prince William Counties forming the Fauquier-Prince William-Rappahannock Health District. Offices for Rappahannock County will be in Washington, Virginia. Headquarters for the district will be at Warrenton rather than at Manassas.

Effective February 1, Spotsylvania County will be joined with the Fredericksburg-King George-Stafford unit forming the Fredericksburg-King George-Spotsylvania-Stafford Health District. Headquarters will be in Fredericksburg.

Dr. Paul B. Chapman, Health Officer of the Frederick-Winchester Health District, resigned as of December 1, 1950. He was replaced by Dr. Albin Lindall on January 22.

Dr. David Nye Barrows,

Director of Gynecology and Medical Executive Officer of the New York Polyclinic Medical School and Hospital, has been made Dean of the institution as of January 1st, 1951. Dr. Barrows also holds a position as Clinical Professor of Gynecology and Obstetrics at New York University College of Medicine.

American Red Cross.

In the interest of national security and world peace, the entire American Red Cross organization has been called on for an unprecedented expansion of its facilities.

Today's tremendous Red Cross defense tasks include:

Serving our expanding armed forces.

Training upwards of 20,000,000 Americans in first aid.

Teaching 1,000,000 women to care for the sick at home.

Training at least 100,000 volunteer nurses' aides.

Recruiting and training volunteers to assist with temporary shelter, food and clothing in event of war-caused or natural disaster.

The job is great. The need is urgent. Only with your help can Red Cross fulfill its obligations.

You can help mobilize the forces of mercy for the protection and defense of your family, your community and your nation by generous support of the 1951 Red Cross Fund Campaign.

Laboratory Training Courses.

The Communicable Disease Center announces a series of Laboratory Refresher Training Courses of one to four weeks to be given during the calendar year of 1951. Information and application forms should be requested from the Officer in Charge, Laboratory Training Services, Communicable Disease Center, U. S. Public Health Service, P. O. Box 185, Chamblee, Georgia.

Contact Camps for Reserve Medical Officers.

The Second Army Surgeon, Colonel H. W. Glattly and a group of specialists will conduct contact camps on the Second Army Area during February. The itinerary will include (in addition to those scheduled in Ohio for the 3rd and 4th): Philadelphia, February 10; Richmond, February 11; Pittsburgh, February 17; and Baltimore, February 18. An interesting and informative program of current topics has been arranged. The sessions will start at 1:30 p.m., but officers are asked to arrive early so as to make registrations in advance. Complete details may be obtained from unit instructors.

Dr. Walter J. Otis,

New Orleans, class of '15, Medical College of Virginia, on December 14 delivered an address on Psychiatry in Its Relation to De Paul Sanitarium and the South at the dedication of the Rosary Clinic of De Paul in New Orleans. This sanitarium was founded in 1861 by the Sisters of Charity of St. Vincent de Paul and has continued in active service to mental and nervous patients. Dr. Otis is medical director and neuro-psychiatrist-in-chief to the De Paul Sanitarium.

Postgraduate Course in Cardiology.

Emory University School of Medicine, Atlanta, is having a Postgraduate Course in Cardiology on March 5-9. Many well known doctors are included in the officers of instruction. A program and details may be obtained from the Director of Postgraduate Education, Emory University School of Medicine, 36 Butler Street, S.E., Atlanta 3, Georgia.

The National Conference on Medical Services

Will hold its twenty-fourth annual meeting Sunday, February 11, in the Red Lacquer room of the Palmer House in Chicago. The meeting is of special importance to presidents, secretaries, and public relations personnel of state and county medical societies.

Heads DeJarnette Sanatorium.

Dr. G. Edmund Stone, who has for some time been on the staff of DeJarnette Sanatorium, Staunton, has been named superintendent, succeeding Dr. C. Earle Johnson, resigned. Dr. Stone entered upon his new duties on January 1.

Dr. Johnson has moved to Mississippi where he will conduct his private hospital—Hoye's Sanitarium —at Meridian.

"CA—A Bulletin of Cancer Progress",

Published by the American Cancer Society, is the newest weapon in the Society's professional education arsenal aimed at raising the general practitioner's index of cancer suspicion. Appearing bimonthly, "CA" features digests and abstracts of significant clinical and research reports selected from the world's voluminous cancer literature.

"CA's" editors select the material they believe to be of the greatest practical significance to the practicing physician, and present the essence in easy-to-read style. The pocket-size magazine is well-illustrated with art and photographs.

Each issue contains one or two articles by authorities on problems frequently encountered in office practice. Additional features are a question and answer department, a clinico-pathological conference recorded in successive institutions, an interpretive presentation of new developments and schedules of forthcoming medical meetings.

Twenty-four divisions of the Society, including the Virginia division, are issuing "CA" to approximately 50,000 practicing physicians. The Society hopes that eventually the magazine will go to every doctor in the nation.

Dr. Alfred P. Upshur,

Class of '08, Medical College of Virginia, and at present manager of the Staten Island Veterans Hospital, has been named manager of the 1,000-bed Veterans Hospital now under construction at East Orange, New Jersey. This appointment will be effective July 1 and the hospital will be opened in the Fall.

New Doctors for State Hospitals.

The State Hospital Board announces the appointment of Dr. Herbert Mead Bowlby as chief of service at the Western State Hospital, Staunton, and Dr. Abraham H. Dunn as chief of service of medical surgery at Central State Hospital, Petersburg.

Dr. Carroll M. Williams,

Associate professor of zoology at Harvard University, was recently awarded the $1,000 prize offered annually by the American Association for the Advancement of Science. Dr. Williams is a native of Richmond who received his Ph.D. in biology at Harvard in 1941; and his M.D. degree from the same University in 1946.

National Conference to Study Chronic Illness.

The first national conference of the newly organized national Commission on Chronic Illness will be held in Chicago at the Edgewater Beach hotel on March 12, 13 and 14.

The aim of the conference, according to Dr. Morton L. Levin, Chicago, staff director of the commission, is to determine how the chronic disease problem—the nation's No. 1 health problem—can be attacked at its roots through prevention.

The national Commission on Chronic Illness was founded in 1949 by the American Medical Association, American Hospital Association, American Public Health Association and the American Public Welfare Association. It is now an independent national agency studying the common denominators—the similar medical-social-economic problems presented by various forms of chronic illness and disability.

Co-sponsors of the national conference on preventive aspects are the National Health Council and the U. S. Public Health Service.

The American College of Allergists

Will hold its seventh annual meeting at the Edgewater Beach Hotel, Chicago, February 12-13-14, 1951. This year these will be section meetings: Phychosomatic aspects of allergic diseases, under the leadership of Harold Abramson, M.D. of New York; on Pediatrics, under Bret Ratner, M.D. of New York; on Allergies of the Nose and Throat, under George Shambaugh, M.D. of Chicago; on Allergic Diseases of the Skin, under Rudolph Baer, M.D. of New York City; and the Allergic Aspects of Rheumatism and Arthritis, under George Rockwell, M.D. of Cincinnati, as well as a general session of the College when hay fever, asthma and the newer drugs will be discussed under the leadership of John Mitchell, M.D. of Columbus, Ohio, the President of the College.

This year the College is trying for the first time

the experiment of offering its post collegiate instructional course on the three days just preceding its annual conclave. This course has been arranged with the thought in mind that 10 per cent or more of all the patients in a physician's practice have an allergic component in their complaint. (The faculty consists of some 25 outstanding allergists.) The course is therefore an extremely practical one designed for any physician who wants to learn the basic principles of diagnosis and treatment of allergic individuals and techniques that are useful in the management of these patients. A fee of $35.00 will be charged for the three-day course lasting through February 9-10-11. For further information and registration write Fred Wittich, M.D., Secretary-Treasurer, American College of Allergists, LaSalle Medical Building, Minneapolis, Minnesota.

Special Study of Rheumatic Fever.

Dr. T. Duckett Jones, chairman of the American Council on Rheumatic Fever of the American Heart Association, has announced that the Council plans for an international cooperative study of the effectiveness of the hormone substances ACTH and cortisone in the treatment of rheumatic fever and the prevention of rheumatic heart disease. The long term study will be conducted through a central coordinating center in New York City and at twelve cooperative research centers in the United States, Canada, and Great Britain. This announcement is of especial interest to our readers as Dr. Jones is a son of the late Dr. and Mrs. J. Bolling Jones of Petersburg.

Wanted—

X-Ray male technician. Registered. 258-bed general hospital. Salary depending on training and experience. Give full particulars. Write De Paul Hospital, Norfolk 5, Virginia. (*Adv.*)

Office Space Available.

Doctor's or dentist's office available immediately, corner of Franklin and Harrison Streets. Call 5-4397, Richmond. (*Adv.*)

For Sale—

Four bed room house, all conveniences, and four-room office combination with a fully established practice in a town of over 4,000 shopping population. Only one other physician in town. Full selling price $20,000, including a $10,000 GI loan which may be assumed by the purchaser. Will introduce if sold within 60 days. Write P.O. Box 297, Buchanan, Virginia, or phone Buchanan 3671. (*Adv.*)

OBITUARIES

Dr. Ruth Mason-Grigg,

Prominent physician of Petersburg, died at her home on January 1. She was fifty-seven years of age and a graduate of the University of Virginia Medical School in 1925. She served an internship in New York, following which she located in Petersburg. She was quite active in local medical circles and had served as president of the Petersburg Medical Faculty. She gave up private practice two years ago to become head of the dispensary at the WAC training center at Fort Lee, which position she held until her death. She is survived by her husband and two daughters.

Dr. George Abbitt Torrence,

Who practiced in Bath County for twenty-five years, died January 11 at Fort Lauderdale, Florida. A native of Appomattox County, he was fifty-eight years of age and a graduate in medicine from the Medical College of Virginia in 1914. Dr. Torrence was chairman of the Bath County Democratic Committee and a prominent political and civic leader. He was also a Shriner. His wife and two daughters survive him.

Dr. Roy C. Fravel,

Well known surgeon of Woodstock, died January 13 after an illness of several months. He was sixty-eight years of age and a graduate in medicine from the former University College of Medicine, Richmond, in 1909. For several years he was associated with the McGuire Clinic in Richmond, and served in World War I as a surgeon in various hospitals in France. He was a Mason, a member and former president of the Woodstock Lions Club, and took an active part in many civic enterprises. His wife survives him.

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GUEST EDITORIAL

The Problem of Cardiovascular Disease

THE primacy of heart disease as a cause of death is likely to be maintained as far as we can see for the indefinite future unless armed conflict should alter the existing relationships. More than 9,000,000 people in the United States have some form of cardiovascular disease. This is of necessity an estimate, but a relatively accurate one. As the chief cause of death in the United States it is responsible for more deaths than the next five causes combined; it caused more than four times as many deaths in Virginia in 1949 as cancer, the second leading cause of death. Two major influences have brought the death rate from heart disease to its leading position in this country in the past thirty years. These influences might well be considered the results of our civilized progress. The first is the marked reduction of other causes of death, particularly those due to infantile diarrhea and infections, communicable diseases, tuberculosis, and infectious diseases in general. The second influence is directly related to the first—that is the increase in life expectancy has resulted in a relatively increased number of persons living over the age of fifty-five years, thereby having reached the time of life in which the so called degenerative cardiovascular changes take place. This is the responsible factor for the increased importance, and there has not been an absolute increase in the incidence of cardiovascular disease if correction is made for the increased life expectancy (which is now more than sixty-eight years average).

The three most important forms, accounting for about ninety per cent of all heart disease, are rheumatic heart disease, arteriosclerotic cardiovascular disease, and hypertensive cardiovascular disease. Rheumatic fever and the resulting rheumatic heart disease affects primarily the younger ages. Its greatest incidence is in the five to fifteen year old group, and it is the leading fatal disease between the ages of five and nineteen years. Rheumatic heart disease has quite properly been called childhood's greatest enemy. No other childhood disease rivals it as a cause of death and invalidism. Unfortunately the crippling results of the disease cannot be readily seen upon ordinary inspection as is the case with certain other diseases, but a study made in an area of the northern portion of the country revealed that rheumatic fever and heart disease caused five times as many deaths as meningitis, whooping cough, poliomyelitis, measles and diphtheria combined. Arteriosclerotic cardiovascular disease fortunately causes the largest number of its deaths in the seventy to seventy-nine years age group. Hypertensive cardiovascular disease occurs in some of its severe forms in the young adult age group, but from a statistical standpoint affects chiefly persons in the middle and older age group. The outlook for a number of years of life without serious difficulty is good for persons having hypertension. There are other forms of cardiovascular disease, the most notable being congenital heart disease and the cardiovascular infection, subacute bacterial endocarditis. These are less common than the three principal types, but are important and represent a group in which the therapeutic possibilities seem increasingly promising.

In the face of a problem of this magnitude two things seem essential for further progress. First, there must be broader knowledge of cardiovascular disease. Particular emphasis should be placed on the unanswered questions concerning etiology and other

pathologic physiologic changes related to the development of cardiovascular disease and the failure of the cardiovascular mechanism. The second essential point is fuller application of existing knowledge. To accomplish these goals a great deal must be done.

Research seems the only approach to the problem of increasing the existing knowledge of cardiovascular disease. There should be no slackening of effort in this field; in fact it should be increased and facilitated. Only by such continuing effort will the mysteries of the origin of rheumatic fever, the etiology of coronary sclerosis and hypertension; and the causes of congenital malformations be solved. Much progress has been made: surgical correction of congenital defects, antibiotic therapy for subacute bacterial endocarditis, ACTH and cortisone in acute rheumatic carditis; surgical treatment of hypertension, and anticoagulant therapy in coronary and other vascular occlusions. Much progress remains to be made.

As regards the fuller application of existing knowledge nothing excels education as a means of accomplishment. The need for education is widespread. The medical profession is not without considerable lack in this regard. It has been said that the fate of the patient suffering from cancer rests in the hands of the first physician he consults. This may also be applied to many heart disease sufferers. Not only must there be increased dissemination of existing knowledge among the members of the medical profession, but also increased facilities available for assistance in diagnostic study, specialized and comprehensive management. Fruitful results will also be obtained by furthering education among those professions, groups, and individuals working in close association with the medical profession. The ideal management of certain problems of heart disease requires community services in addition to the individual doctor-patient relationship.

In widening the scope of usefulness of our present knowledge education of the general public is the best approach. There exists in the mind of people at large more misinformation than information relative to heart disease. The goal should be education in maintaining good health and not limited to facts about heart disease. Early recognition and adequate treatment can improve the situation in the majority of cases. Some diseases are preventable; particularly those related to hemolytic streptococcal infections. Symptoms that seem to suggest cardiovascular disease do not necessarily mean a diseased heart and the number of persons incapacitated by such misapprehension is quite large. Unfortunately this misapprehension is often professionally induced. Some of the incapacity of persons having actual disease is due more to the general attitude than to their disability. A large segment of these people are capable of gainfully working in a suitable occupation. Many find it difficult or impossible to find employment of any type. This needs revision. Non-productive citizens represent a heavy financial burden which falls upon the community itself if the family breadwinner is incapacitated.

In recent years the American Heart Association has changed from a small purely scientific organization of medical persons to a large mixed lay and professional group engaged in a relatively large scale program of research, community effort and education. Obviously such a program costs money and fund raising is a vital part of their efforts. This is difficult in the face of the numerous existing drives and campaigns of various agencies. There is, however, no disease problem that even rivals the magnitude of that resulting from cardiovascular disease. If the situation is to be improved, and it can be improved, vigorous attack will be necessary. It can be done, and it will be done.

HOWARD MCCUE, JR., M.D.

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RECENT ADVANCES IN OBSTETRICAL CARE*

Eugene S. Groseclose, M.D., F.A.C.S.,
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A discussion of the advances in any of the specialized fields of medical practice during the past two decades must of necessity be limited in scope and detail. To present a coverage of such a wide field of diagnostic and therapeutic procedures, the author will briefly discuss the more recent and significant advances in the practice of obstetrics.

Progress in the care of the pregnant and parturient patient has made great strides in the past decade, as manifested by the marked reduction of maternal and fetal morbidity and mortality, not only in the United States, but throughout the world generally. During the past year, numerous reports of hospital and community obstetrical statistics have attested the remarkable improvement in the practice of obstetrics, which has undergone an evolution in this generation.

Philip Williams states that the 60 per cent decrease in the maternal death rate since 1933 is an outstanding medical achievement, attributable to many different factors. The maternal mortality rate in the United States has now been reduced to an average of .25 per cent in large reported series. Kushner, in reporting the statistics of 30,568 deliveries from 1932 through 1945 at the Bronx Hospital, showed 57 maternal deaths, or a mortality rate of only 0.187 per cent. Bryant reports the 10-year maternal death rate at the Cincinnati General Hospital from 1937 to 1946 was 86 deaths out of 29,193 pregnant and postpartum cases admitted—a rate of .29 per cent. Marion Keen reports that the Canadian maternal death rate had decreased from 5.3 in 1934 to 2.7 in 1944—a 50 per cent reduction in one decade.

The chief causes of death in the puerperal woman are *infection, toxemia,* and *hemorrhage,* and in many cases is due to more than one cause. Many of these deaths are deemed preventable, and the prevention is chiefly the responsibility of the physician. The outstanding improvement in maternal mortality is the result of many factors, the most important being better hospital facilities for the care of obstetrical patients, the increased desire on the part of patients to seek hospitalization, improved obstetric technique, increased prenatal services now available, with the education of the lay public of their value. The use of whole blood and plasma, the sulfonamides and penicillin, the more efficient methods of relieving pain, and improved methods of anesthesia, have all contributed greatly in reducing obstetrical and fetal death and preventing the fears and hazards of child bearing.

A. General Prenatal Care and Pregnancy

Regular prenatal care and hospitalization for more obstetrical patients *is the keystone in the treatment and prevention of obstetrical hazards.* Education of the public to seek prenatal care under trained personnel and the procuring of hospital facilities for more patients, especially those cases of apparent or impending complications or dystocia, is vitally important. All obstetrical patients with hemorrhagic complications and those in whom toxemia is present should be hospitalized. As an integral part of modern prenatal care, the improvement and supervision of the mothers' diet with additional vitamin therapy, combating nutritional anemia, and improving environmental factors, have all contributed to the reduction of maternal death from the toxemias of pregnancy and the prevention of fatal complications resulting from acute infectious diseases. More frequent consultation of the obstetrician with the internist, the surgeon, the urologist, or other specialists, has in a large measure, reduced the incidence of maternal death from all the medical and surgical complications to which the parturient patient is subjected. More frequent use of X-ray pelvimetry has greatly enhanced the management of suspected dystocia in cases of cephalo-pelvic disproportion or mal-presentation. The dangers of child-bearing have now been greatly reduced in cases of diabetes, tuberculosis, heart disease, hyperthyrodism, and many other complications which formerly were considered as indications for therapeutic termination of pregnancy.

I. *Hemorrhage of Early Pregnancy:*

The prevention and treatment of early abortion is still one of the major problems of prenatal care. The

*Read before the annual meeting of the Medical Society of Virginia at Roanoke, October 8-11, 1950.

results of endocrine therapy in threatened abortion as a rule have been rather disappointing. A decade ago, the therapy of choice was corpus luteum hormone in daily doses of 20-50 mgm. hypodermically. Following this, mixed hormonal treatment consisting of both corpus luteum and estrogenic hormone was in vogue, but, at the present, large doses of estrogenic hormone alone is the method of choice by many obstetricians. In addition to endocrine therapy, sedation, bed rest, and the correction of any pelvic pathology is necessary to reduce the incidence of early abortion. Vitamin E and thyroid are now given in most cases, in addition to the specific hormonal therapy.

II. *Toxemia of Pregnancy:*

The early detection of toxemia of pregnancy and the institution of proper treatment to prevent the late toxemias, especially the hypertensive-vascular and the convulsive groups, can only be accomplished by regular prenatal care of all pregnant patients. Toxemia of pregnancy still remains a frequent cause of death, especially in the Southern States, but is a complication that can be largely prevented by proper prenatal care. Chesley, in a very comprehensive review of the problem of pregnancy toxemias at the Margaret Hague Maternity Hospital from 1931 to 1945, during which period there were 81,930 deliveries, presents the following conclusions which reflect fairly well the modern trend of opinion: first, prompt treatment of the first signs of toxemia by rest, sedation, and diet, will most often prevent pre-eclampsia, second, treatment of pre-eclampsia to restore electrolyte balance and lessen the strain on damaged endothelium by reducing blood pressure, and probably termination of pregnancy, and, third, in eclampsia the control of convulsions is the first and most important consideration. The present day medical therapy of pre-eclampsia and eclampsia has not changed materially from that of the past decade. Chesley feels that the longer the patient shows symptoms of pre-eclampsia, the greater the incidence of permanent hypertension, and, therefore, the treatment of pre-eclampsia is now more radical, provided the patient is thirty-two weeks or more pregnant. Heavy sedation by the barbiturates, administration of concentrated magnesium sulphate, and intravenous hypertonic glucose are the main factors in pre-eclamptic control, other than termination of the pregnancy. After the onset of true eclampsia with convulsions, intravenous barbiturates, demerol and morphine are used. Hingson and Edwards introduced the caudal anesthesia method of controlling convulsions in 1943. Within the past five years, the intravenous drip of sodium pentothal has gained prominence in controlling convulsions, and a new field of treatment was recently reviewed by Ware and his co-workers, in the administration of continuous spinal anesthesia. Continued medical research and diligence on the part of the physicians will result in lowering the mortality from this dreaded obstetrical complication.

III. *Rh Immunization:*

The advent of the discovery of the Rh factor and the subsequent studies by Weiner, Levine, Potter, Diamond, and many others, has placed upon the obstetrician a heavy burden of responsibility in the prevention and treatment of hemolytic disease of the newborn. Modern medical literature on the Rh factor is almost overwhelming and difficult to follow. An attempt will be made to present here the basic concepts and facts which represent one of the greatest medical contributions in recent years, and upon which a working knowledge can be applied. The Rh factor is present (positive) in about 85 per cent of the white men and women, and absent (negative) in 15 per cent. It is inherited as a mendelian dominant. The Rh factor is present in the fetus and remains for life. Levine and Burnham showed that agglutinins which develop in Rh negative wives of Rh positive husbands during pregnancy are responsible for fetal erythroblastosis in Rh positive babies. The antibodies of the mother pass the placental barrier and injure the fetal blood and blood forming organs and tissues, especially the liver and brain. Erythroblastosis is rare in the first pregnancy, and, when it does occur, may be due to a previous transfusion of Rh positive blood to the mother, often in childhood. Modern obstetrical care requires that every pregnant woman should be tested for Rh status, and a careful interpretation of previous fetal blood dyscrasias made. Periodic antibody agglutinin titres should be made after the 6th month of gestation in all cases in whom the appearance of erythroblastosis may be suspected. Such studies enable the attending physician to be prepared to treat promptly at birth any abnormality, and early consultation with a pedi-

atrician on the possibility of this complication is of prime importance.

The present accepted method of treatment of erythroblastosis *is the immediate replacement transfusion of Rh negative blood.* Replacement transfusion is not a new procedure and it was in use in 1925 in the treatment of erythroblastosis fetalis. Diamond favors the transfusion via the umbilical vein and advocates the use of compatible Rh negative or group O blood neutralized with A and B substances, maintaining body temperatures, cleaning of the airways and administration of oxygen constantly. In Diamond's first 50 cases the mortality has been reduced to 10 per cent, as compared to a 40 per cent mortality of previous methods of treatment. However, since many infants with erythroblastosis are severely affected at birth, or even stillborn, it seems logical to introduce one further step in modifying the severity of the disease. This consists in delivery 2-3 weeks prior to term in a patient whose Rh titre is demonstrably high, or is rising rapidly. Many obstetricians, however, do not favor this procedure, and in the writer's opinion, early induction of labor or premature delivery by Cesarean section, offers no definite assurance of preventing fatal hemolytic disease of the infant. Potter, in an exhaustive review of this subject in 18,468 deliveries at the Chicago Lying-in Hospital during the past 5 years, found that erythroblastosis occurred once in 2,814 deliveries for women in their first pregnancies, to 1,172 in second pregnancies, and 1,555 for sixth pregnancies. She states that "in no instance did a live born infant die whose birth had not been preceded by an infant with erythroblastosis." Also, in only two instances did an infant survive whose birth had been preceded by that of an infant with this disease. The use of methionine, an essential amino-acid, in the ante-natal treatment of erythroblastosis, has been studied exhaustively by Philpott, Hendleman, and Primrose. Five grams of the crystalline methionine was given daily in tablet form at the first sign of immunization of the Rh factor, with no regard to the daily intake by the diet. They emphasize that in this disease, methionine is given purely as a liver protective, and that antibody development continues in the mother and hemolysis of the red cells occurs in the fetus. Following birth, all babies with hemolytic disease receive .5 gram of methionine daily for at least 12 days. They conclude that methionine is a valuable adjunct to other proved types of therapy—namely, supplementing the immediate replacement blood transfusion.

IV. *Anemia of Pregnancy:*

Due to the frequency of anemia in obstetrical patients, initial and periodic determination of the hemoglobin is considered essential to modern prenatal and postpartum care. The treatment of the anemia of pregnancy has for years been rather disappointing following the administration of the commonly used iron preparations. Response of the macrocytic type of anemia to iron and liver combined therapy has been satisfactory. One of the important recent advances in obstetrical treatment is the use of molybdenum-iron complex in the treatment of anemia of pregnancy. Dieckmann, Priddle, Chesley and others have made exhaustive studies of this problem and they conclude that a molybdenum-iron complex has been proven the most effective therapy in producing a significant increase in hemoglobin concentration in most patients within 3 weeks, and that a failure of response to this therapy indicates further hematologic studies.

V. *Syphilis in Pregnancy:*

The control of this disease has in the past been one of the major problems of prenatal care. With the advent of penicillin therapy for syphilis, this method was immediately applied to the treatment of the syphilitic pregnant patient. Ingraham, one of the leading authorities in this country, states that there is now no question that anti-luetic penicillin therapy is the method of choice. The penicillin treatment is virtually reactionless and can be completed within a few days. Present methods of treatment consist in the administration of 2.4 to 5 million units over a period of 7 days and a single course of treatment is usually sufficient. Aqueous penicillin or penicillin in oil or beeswax has proven equally effective. Ingraham, in reviewing 580 cases of syphilis in pregnancy, found that penicillin was effective in preventing congenital syphilis in primary, secondary or latent syphilis. A living syphilitic infant was born in only 2 per cent of cases, whereas with bismuth and arsenic the incidence was 5 to 7 per cent. The question of retreatment in subsequent pregnancies of a woman receiving a standard course of penicillin for syphilis prior to conception is difficult to answer. In this group, less than 1 per cent of

syphilitic infants are born where no retreatment is given. However, Ingraham concludes that the great effectiveness and relative safety of penicillin to prevent congenital syphilis make the retreatment of the pregnant woman desirable, if there exists any doubt of the effectiveness of her previous anti-syphilitic therapy. The addition of arsenic and bismuth therapy in selected cases has recently been advocated.

VI. *Hemorrhage of Late Pregnancy:*

Antepartum hemorrhage constitutes one of the most perplexing problems facing the attending physician. Hemorrhage continues to be one of the leading causes of maternal death, yet it is generally agreed that by correct diagnosis and prompt treatment with modern facilities, most deaths resulting from hemorrhage are preventable. Excluding the most frequent cause of hemorrhage in the early months of pregnancy, namely, abortion and ectopic pregnancy, the most frequent etiological factors in hemorrhage of pregnancy are abruptio placenta and placenta previa. For the purposes of this discussion, only the latter two complications of late pregnancy will be considered. Early recognition by both the patient and the physician of the significance of antepartum hemorrhage is imperative. The present day trend of treatment of these two conditions may be summarized briefly by (1) *prompt treatment of shock and immediate replacement of blood loss,* and (2) *conservative treatment in terminating the pregnancy.* In abruptio placenta, prophylaxis is of prime importance, since, in approximately one-half of such cases, toxemia of pregnancy is thought to be a potent etiological factor, and good prenatal care therefore offers much in the way of prevention of abruption.

Kimbrough and Jones, in a review of these complications at the Pennsylvania Hospital, have established the following principles, which crystallize the present day trend of opinion. In abruptio placenta, manual dilatation of the cervix and other traumatic procedures for delivery have no place in the elective treatment of abruptio. Treatment for shock and the replacement of blood, before instituting measures for delivery, will greatly decrease the operative risk. Prompt replacement of blood following delivery decreases not only the immediate danger, but lessens the incidence of puerperal infection.

In placenta previa, the following general principles should be adhered to: (1) Accurate diagnosis of the cause of bleeding is essential. No patient suspected of placenta previa should be examined until preparations for both vaginal and abdominal delivery have been made. (2) Treatment of shock and replacement of blood by transfusions of whole blood or plasma are essential before instituting any procedure for delivery. (3) The method of delivery is almost wholly dependent on the status of the cervix. (4) In all cases in which the cervix is not dilated, in all cases of central placenta previa regardless of cervical dilatation, and in those of malpresentation of the fetus, Cesarean section is the safest and therefore the most conservative form of treatment.

During recent years, many advocates of the expectant treatment of placenta previa have urged this method, mainly in the interests of the viability of the fetus. Macafee and Johnson have championed expectant treatment on both sides of the Atlantic. Mills, of England, and Williams and many others in this country, state that conservative treatment can be carried out safely in approximately 25 per cent of cases of placenta previa. They conclude that the disadvantages to the mother of hospital confinement or a very restricted life at home are outweighed by the increased possibility of obtaining a live baby. Kimbrough and others feel that expectant treatment is never justified unless the mother remains in the hospital throughout the remainder of pregnancy. All are agreed that prompt access to hospital treatment, good transportation facilities, an adequate blood bank, close supervision by the attending physician and proper operative facilities, must be available for safe expectant treatment.

In general, it may be stated that the present method of treatment of most cases of placenta previa is the termination of pregnancy by Cesarean section, whereas the use of hydrostatic bags, forceful cervical dilatation or Braxton Hicks version and extraction as practiced in the past, have very little place in the safe and conservative treatment of this complication.

B. CONDUCT OF LABOR AND DELIVERY

It may be stated that the present trend of thought among the leaders in the obstetrical field is that the keynote to success in the conduct of labor and delivery is summarized in the word—*Conservatism.* Experience in the practice of obstetrics leads to conservatism, and modern teaching methods encourage it.

One of the greatest problems in the care of the

obstetrical patient, both in the past and present, has been the relief of fear and pain by a safe method of analgesia and anesthesia—one that is safe for both the mother and child. Snyder states that obstetric analgesia is today the most widely discussed and the most controversial problem in obstetrics. Since fetal respiratory injury is pre-eminent as a cause of death associated with birth, analgesics and anesthetics should be studied and employed in terms of the amount of respiratory depression in the fetus, the degree of impairment produced in the labor mechanism, and the safety of the mother.

There is no general agreement as to the best and safest analgesia in labor or the anesthetic for delivery, as shown by the many different drugs now in use. The most frequently used drugs for the relief of pain in labor at the present time are the barbiturates and their derivatives, and demerol hydrochloride, with or without the use of scopolamine. The total dosage of the various analgesic drugs now in use is individualized in each case, depending upon the length of labor, the progress of labor and the condition of the mother and fetus. The use of morphine or "twilight sleep" has largely been abandoned in favor of the newer and safer drugs and methods. The introduction and use of continuous caudal analgesia by Hingson and Edwards and others several years ago, promptly received many advocates of this method. However, the general experience, reported in the literature during the past five years, has indicated that continuous caudal analgesia requires considerable time and skill and has potential dangers for both mother and child that cannot be completely eliminated. Therefore, the acceptance and use of this method has not been wide.

Present day methods of obstetrical anesthesia are also many and varied. For years, the use of nitrous-oxide-oxygen or ether by inhalation have been the most commonly used anesthetics, and, in the opinion of many, are still the safest and best controlled of all methods when administered by a trained anesthetist. Spinal anesthesia has been used many years, and in the past decade has become one of the most widely used of obstetrical anesthetics, although it, too, is potentially dangerous. Dieckmann, Adriani and many others have had wide experience in the use of spinal anesthesia as an obstetrical measure and the medical literature abounds in many reports of its use. Adriani, one of the pioneers in the use of the spinal, or saddle block anesthesia, recently reviewed 12,500 spinal anesthetic blocks with 14 deaths. Dieckmann and his co-workers have reviewed 2,519 obstetrical spinal anesthesias, and together they formulate the present safety rules to be followed:

(a) Patients with anemia do not tolerate spinal anesthesia well.
(b) Patients in shock do not withstand spinal anesthesia well.
(c) Nupercaine, pontocaine, procaine, and metycaine are all safe if properly administered and controlled.
(d) The dosage to be utilized should be lower than in general use, never exceeding 75 mgm. for procaine, 50 mgm. for metycaine and pontocaine 8 mgm.
(e) Intravenous administration of fluids and vasopressor drugs in all cases.

The use of spinal anesthesia for Cesarean section has become more popular during the past five years. Lull and Ullery reported 1,000 consecutive continuous spinal anesthesias for Cesarean section without maternal mortality, and Hingson adds another series of 600 consecutive spinal anesthesias for Cesarean section without mortality.

Dieckmann concludes that, if all accepted precautions are followed, spinal anesthesia in obstetrics can be safe, simple and precise, that operative interference in delivery is not significantly increased, that complications have not been a problem, that early spontaneous respirations of the fetus has been striking, and that there has been no increase in the fetal or maternal morbidity or mortality.

During recent months, numerous reports of the use of intravenous sodium pentothal have appeared, but the use of this agent by the author has been limited to only a few cases. It has been shown by the work of Dille, Hellman, Shettles and Stean that none of the drug passes through the placenta in less than five minutes. Cooley and Schwarz recently reported a series of 316 cases in which sodium pentothal was used. A 2.5 per cent solution was used intravenously following seconal and demerol analgesia during labor. The average time from the start of anesthesia to the delivery of the child was three minutes, the longest being six minutes. Herrick reported 492 Cesarean sections for which sodium pentothal was the only agent employed until after delivery of the

child, with no maternal deaths, and 5 cases of atelectasis of the baby, probably attributable to the anesthetic agent.

It may be here concluded that, to the present day, no completely safe and satisfactory method of obstetrical analgesia or anesthesia has yet been found, but that great progress has resulted in this all important field.

The prevention of shock and dehydration, the more universal use of whole blood and the antibiotics, have contributed largely to the remarkable reduction in obstetrical morbidity and mortality, as described in the early portion of this presentation. The maintenance of the fluid and electrolytic balance by the administration of oral fluids and intravenous saline and glucose during labor, has played a major role in maintaining the patients' resistance to the strain of labor, to the prevention of puerperal infection, and to the onset of shock. Especially in cases of prolonged labor or dystocia, is it important that the pulse, temperature and blood pressure be followed, and dehydration combated.

In all cases of obstetrical hemorrhage, either prior to or during labor, rapid replacement of blood loss by properly matched and Rh tested blood, and in sufficient amounts, is now known to be of paramount importance. It has been shown that immediate replacement of the blood loss is necessary to prevent an irreversible shock and death in many cases. The modern blood bank method of securing needed whole blood, for which there is no real substitute, has therefore reduced greatly the present day mortality from hemorrhage. In my opinion, no other single factor shows equal importance as the constant availability of whole blood. It should be emphasized that modern obstetrical treatment, therefore, requires of the attending physician prompt preparation to combat shock from hemorrhage, and the anticipation of this possible emergency in all cases.

In obstetrics, as in all other medical specialties, the more universal use during the past decade of the sulfonamides and antibiotics, has greatly reduced the incidence of intra and post partum infections. Many reports in the literature attest the importance of prophylaxis against infection by these drugs, and the reduction in fatality of previously uncontrolled infections. The problems involved in the proper management of prolonged labor constitute a major challenge to the obstetrician, especially in those cases in which operative delivery finally becomes necessary. Danger of infection rises proportionately to the length of time since rupture of the membranes, the total duration of labor, and the necessity of repeated examinations or other intravaginal or intrauterine procedures.

Douglas and Landesman in 1948 made a very exhaustive study of the prophylactic use of sulfadiazine and penicillin, combined therapy, and the bacteriologic study of patients with both intrapartum and puerperal infection suggested that both agents are of great value. Sulfadiazine is used to combat invasions of the gram negative organism and penicillin to control the gram positive cocci. Massell and his co-workers suggest that there may be a synergistic action where these agents are employed together. Sulfadiazine is usually administered orally, 1 gram every four hours or a total of 6 grams daily, while penicillin is given in a total daily dose of 160,000 to 400,000 units daily. Both sulfadiazine and penicillin have been shown to pass the placental barrier to the fetus, as shown by Herrell, Nichols, and Heilman. Prophylaxis against possible infection in all cases requiring Cesarean section after the onset of labor, has markedly reduced the incidence of post partum infection.

Douglas and Landesman conclude from their studies that the combined use of sulfadiazine and penicillin has contributed to a reduction in the severity of peritoneal, intrauterine, or wound infections; that the use of transperitoneal Cesarean section has been broadened; that serious toxic effects during labor and the puerperium are few; that urinary tract infection associated with prolonged labor or Cesarean section has been drastically reduced, and that infant mortality from maternal infection has been decreased.

To control severe intra-partum or puerperal infections, penicillin in dosages of one to three million units daily, or, in some cases, the use of streptomycin or aureomycin are, at present, almost in universal use.

C. Third Stage of Labor

Present day management of the third stage of labor has played a large part in the reduction of maternal mortality. Two factors have contributed largely to this reduction, namely, prevention of excessive blood loss, and prevention of infection. The intravenous use of oxytocics, either pitocin or ergotrate, imme-

diately on the completion of the second stage of labor, and the lifting of the uterus from the pelvis with constant massage by the attendant, have reduced blood loss greatly, and by reducing the need of intravaginal or intrauterine packing has largely prevented the possibility of infections during the puerperium. More careful attention to hemostasis of the episiotomy wound or laceration and the gentle approximation of the tissues by use of fine catgut sutures has resulted in better wound healing and less complications. The administration of oxygen to the mother during the third stage, with delayed clamping of the umbilical cord until all pulsations have ceased, has contributed largely to the welfare of the newborn fetus, the ease of newborn resuscitation and prevention of anemia.

I. *The Puerperium:*

Probably the most radical change in the management of the puerperal patient has been recent trend to early ambulation, not only in the normal cases, but also the postoperative patients. As the term would imply, the actual ambulation or walking of the patients within the first 24-48 hours after delivery is the important factor in reducing the late puerperal complications. Carnell, Mullen and many others have reported large series of cases in which early rising was routinely used, and it is now generally believed that episiotomy wound healing was not adversely affected nor was morbidity increased. It is generally felt that the incidence of thrombophlebitis has been reduced, that involution of the uterus has increased, and that the general welfare and strength of the patients have been improved in most cases. The postoperative course of the Cesarean section cases has been more uneventful, with less abdominal distention, less necessity of catheterization and enemas, no disturbance in normal healing and no increase in peripheral vascular complications.

The securing of adequate rest of the postpartum patients by freer use of sedation and better control of pain, play an important part in recovery. Regular rest hours, restriction of visitors, and adequate sleep are essential. The use of the sulfa drugs and penicillin in active puerperal mastitis, acute pyelitis, and wound infections, have all contributed to a reduction in puerperal morbidity from these complications.

In summary, it may be stated that the advances in the care of the parturient woman during the past two decades, as briefly reviewed above, with resultant lowering of both fetal and maternal mortality, attest to the advancement of modern medicine, not only in the field of obstetrics, but in all its branches.

Allied Arts Building.

Discussion

Dr. J. R. Kight, Norfolk: Certainly all will agree that the recent advancements in obstetrical knowledge have been great. Likewise, all will agree with the author that the scope, the wide field of diagnostic and therapeutic procedure is too great to be discussed in detail in any one paper. The author is to be congratulated on his summary of the recent advancements in the practice of obstetrics.

His statement that the prevention and treatment of early abortion is still one of the major problems in pre-natal care and the results of endocrine therapy in threatened abortion have been rather disappointing, is surely being confirmed in the present literature. The percentage of cases in threatened abortion that are benefited by hormone therapy, started after the onset of symptoms, must be extremely low. I am aware of one series in which all cases admitted with a diagnosis of threatening abortion were treated in one of three ways:

A first group was treated by bed rest and sedation only.

A second group was treated with bed rest and estrogenic substance.

A third treated with bed rest and a combination of corpus luteum and estrogenic hormones.

The fetal salvage in that group treated by bed rest and sedation with no hormone therapy was as great as those treated with the hormones. Prophylactic hormone therapy, started prior to or at the earliest possible time after conception in cases having repeated abortions, habitual aborters, is now frequently used. This therapy is given on the theory that the implantation bed will be structually and physiologically in the most favorable state when the ovum imbeds. That this reasoning is sound and will yield good results in a fair number of cases is believed to be true.

Although the cause of *toxemia of pregnancy* has not been established, there have been many advancements in the knowledge of this disease, and with these advancements the treatment placed on a more sound physiological basis. No longer is it believed that pre-eclampsia is primarily a renal or hepatic disease, but an alteration in the physiology of the vascular system, with an associated abnormal increase in extra-vascular fluid. Repeated studies have served to convince us that the reasons for the extravasation of fluid from the vascular system and its accumulation in the interstitial spaces are multiple. Ammonium chloride is now highly recommended in the correction of abnormal fluid retention, and we may hope that in the near future more effective diuretics will be available for this purpose. Further study with corticosteroids should serve to enlighten and guide us in the therapy of pre-eclampsia. Lucke's work on lower nephron nephrosis has served as a foundation for studies on cases of anuria, following severe tox-

emia, and no longer are fluids forced with the idea of acting as a renal stimulus, but are restricted to a physiological limit with more beneficial results. The author has seen fit to quote the conclusions of Chesley of the Margaret Hague Maternity Hospital and states that these conclusions fairly well reflect the modern trend of opinion in the handling of toxemias. With this I agree, and wish to commend the author for taking advantage of the opportunity of including this concise expression of the modern trend in the handling of pre-eclamptics and eclamptics.

Dr. Groseclose has emphasized the frequency and the significance of anemia in pregnancy and considers the use of iron and molybdenum complex one of the important recent advances seen in obstetrical treatment. That this is a most satisfactory way of combating anemia in many cases is probably correct, but it should be emphasized that anemia in pregnancy may be of several types, and, as yet, there is no one preparation that may be considered *the* treatment of this condition. Although emphasis is often times placed on the frequency and significance of anemia during pregnancy, there are still many large clinics teaching medical students and internes, that require blood studies on the patients only at the time of the initial pre-natal visit. An iron preparation may or may not be prescribed, but repeated determinations are not done. Often and too frequently patients reach the delivery room with a surprisingly low R.B.C. and Hgb., thereby increasing the chances of a major complication. Unfortunately, because of such training, there are many who will enter practice, and continue to accept the initial blood count as sufficient for the duration of an entire pregnancy. Available whole blood for transfusions in unlimited quantities has been our greatest asset in the treatment of hemorrhage appearing during the last trimester of pregnancy. The increased frequency of hospitalization, the improved operative facilities, and the newer methods of combating infection have decreased the maternal mortality and morbidity in these cases. The expectant treatment of placenta previa, as advocated by Johnson, Macafee, and others, by contradicting those that declare placenta previa an "obstetrical emergency", has many followers, and in time will likely have many more, with a resulting decrease in the fetal mortality.

Bibliotheca Obstetrica

Sacombe, Jean Francois (1750?-1822) Élémens de la science des accouchemens. Par le Docteur Sacombe, de Carcasonne, département de l'Aude, Médecin-Accoucheur de l'Université de Montpellier Professeur de Médecine et de Chirurgie des accouchemens, au Palais-National des Sciences et des Arts; Fondateur de l'Ecole Anti-Caesarienne de Paris, et du Collège des Accoucheurs, sous les auspices du Gouvernement; Directeur et Secrétaire perpetuel de ce Collège; Membre de la Société-libre des Sciences, Belles-Lettres et Arts de Paris, etc. Paris, Chez Courcier, Germinal an X (1802). Portrait. 456 pp.

——: La Luciniade. 4th ed. Nismes, Published by the author, 1815. 320 pp.

This French accoucheur claimed that cesarean section was never necessary. On this point he attacked Baudelocque, was sued, found guilty of slander, and fined 300 francs. Baas says of him that he was a fanatic in his defense of the powers of nature, and discarded all operations, desiring to have all midwifery entrusted simply to physicians and midwives, even founding an anti-cesarean section school. From a medical fanatic, he became a charlatan, and went so far as to affirm he would rise upon the earth after his death.

THE ENDAURAL APPROACH FOR SURGERY OF THE TEMPORAL BONE*

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and
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Since 1946 the majority of surgery upon the temporal bone at the University of Virginia Hospital has been performed by the endaural technique. This technique was developed and popularized by Dr. Julius Lempert, of New York. Prior to this period, our approach to the mastoid process and middle ear cavities was by the familiar Schwartze postauricular incision, supplemented by endaural incisions, depending upon which cavities were to be operated upon. Lempert,[1] in 1928, published an article describing an endaural approach to the mastoid cavity, and later published additional articles describing an improvement and extension of his technique to permit surgical treatment of certain types of deafness, middle ear and petrous suppuration, and vertigo. House, Shambaugh, Farrior, and other otologists have contributed valuable material to the subject.

Our technique has been developed from the study of Lempert's essays, from direct observation of Dr. Lempert's skill in the operating room, by the application of the principles thus learned upon the cadaver, and then finally upon the patient. Various modifications in technique and equipment have been tried, but essentially the Lempert procedures are used in the majority of operations.

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Since early 1946, 224 mastoidectomies and fenestrations have been performed by the staff at the University of Virginia Hospital. By referring to Table I, one will observe that 129 (58%) operations were performed by the endaural route, and the remainder by the postauricular method. It is interesting to note the increase in the number of operations by the endaural technique and the decrease in those by the postauricular in the period from 1946 through 1949. The ratio is practically reversed. Also, note that the postauricular route is preferred in simple (cortical) mastoidectomies for acute and subacute disease. In occasional cases of chronic disease wherein the mastoid process is large and pneumatic, the cells are more available by the postauricular or combined approach. The endaural approach is utilized in all fenestration procedures.

Some of the advantages of the endaural approach to the tympanic and mastoid cavities will be mentioned.

1. There is less manipulation of the soft tissues, with less bleeding, minimal scarring, and a rapid, more comfortable, post-operative course.

2. The electrically driven burrs decrease operating time and reduce trauma from the use of the mallet and gouge.

3. Most important, the mastoid antrum and external semicircular canal are located with greater ease, accuracy, and speed.

Table I
Mastoidectomies and Fenestrations

Year	Simple Mastoidectomy Pa	Simple Masto-idectomy Subcortical Ea	Radical Masto-idectomy Pa	Radical Mastoidectomy Mastoido-tympanectomy Ea	Fenestration Ea	Total
1946	9	1	28	8	2	48
1947	10	0	14	14	6	44
1948	5	1	5	34	4	49
1949	13	0	7	35	13	68
1950 (through 4-15-50)	1	0	3	5	6	15
Total	38	2	57	96	31	224

Pa = Postauricular technique 96
Ea = Endaural technique 129

4. The improved head lamp illumination and magnifying loupes, which are a part of the endaural equipment, increase safety to vital structures and, therefore encourage the complete eradication of all infection.

Although we are not prepared to discuss in full our complications in this preliminary report, some comments may be made on those following the endaural procedure. Our cases of persistent otorrhea following operation have decreased, but we still cannot assure the patient a dry ear with complete certainty. A report on the number of cases with postoperative otorrhea and the status of hearing acuity will be forthcoming. Following the endaural procedure, there have been 14 transient cases of 7th nerve paralysis, none permanent. Two cases of perichondritis and chondritis requiring incision and drainage have occurred. Partial stenosis of the auditory canal has developed in an occasional case. Tinnitus and vertigo have caused no concern in any of the patients of this group. There have been no serious complications such as meningitis, brain abscess, etc.

At the present time, we consider our results in fenestrations, from the viewpoint of hearing and healing, to be very satisfactory and improving with added experience. However, we feel that we need more time and a larger number of cases before we can make a reliable statistical evaluation of the results of this type of surgery, as performed by us.

The type of healing in the operated endaural cavities has been unpredictable. The most desired result is complete epithelization of the cavity. In some cases, however, healing will occur by fibrosis. This type of healing may be perfectly satisfactory if no dead spaces and infected pockets are present. Epithelization of the cavity is encouraged by the use of free skin grafts, of full thickness of skin, salvaged from the tissues of the ear canal or split grafts obtained from other donor sites. Skin grafting, in encouraging epithelization, hastens healing. No grafts other than those from the canal flap have been used in the fenestration procedure.

In the postoperative care of endaural cases, we are more and more impressed with the "hands off" policy in the after-care of these cases. Dressings are infrequent and the depths of the cavities are disturbed as little as possible. Our greatest difficulty occurs when the cavities occasionally become contaminated by the bacteria, B. proteus and B. pyocyaneus.

In closing, the matter of anesthesia requires some comment. We have tried the Banower method, of very heavy preoperative sedation plus local infiltration of the tissues with a procaine epinephrine solution, with some success. However, in our experience, we have had a more satisfactory anesthesia in every respect by using moderate preoperative sedation, pentothal sodium, and local infiltration of the tissues, in all adult ear surgery.

SUMMARY

The Lempert endaural technique is supplanting the classical Schwartze postauricular technique for the surgical treatment of chronic mastoiditis and middle ear suppuration at the University of Virginia Hospital. The postauricular approach is still preferred in acute and subacute disease of the mastoid cavity and in the occasional chronic case with a large, pneumatic type of mastoid cavity.

We are indebted to Dr. Lyle B. McGinnis for the preparation of the statistics and for the present follow-up program in these cases.

REFERENCE

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104 East Market Street.

EARLY FUNCTIONAL RESULTS IN FRACTURES OF THE HIP: COMPARISON OF TYPES OF TREATMENT

A Preliminary Report

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The domestic and foreign literature each year contains increasing numbers of reports on fractures of the hip. That these so-called "unsolved fractures" continue to be one of the most difficult problems in fracture management accounts for the voluminous literature reporting end results and new methods of treatment. This report is a summary of the early functional results obtained by several orthopedists, in the treatment of hip fractures, in a teaching hospital. It is not intended as an analysis of end results obtained, as the period of follow up is admittedly too short to draw any conclusions regarding desirability of any particular type of treatment. Rather it is of value in demonstrating early results obtained by several different men using various methods of treatment.

All cases included in this report were treated on the Orthopedic Service of the Medical College of Virginia Hospital, Richmond. This service operates on a rotation basis throughout the calendar year with Board Member orthopedists rotating "on service" for instruction and supervision of the resident House Staff. This report includes both private and ward patients treated, without any attempt at separation of the two groups. All patients treated as ward cases were under the direct supervision of the attending orthopedist at all times during their hospital stay, including supervision during operation. The wide variation in types of treatment is an expression of the differences of opinion of the various orthopedists.

This report covers the years 1945-1948 inclusive. Because of the incompleteness of records for the years 1945 and 1946, no attempt has been made to include the cases from these years in the summary of results obtained. The records for the years 1947 and 1948 are complete, and the results included in this report comprise information obtained from the chart and clinic records of ward patients, in addition to information from follow up letters. Through the generous cooperation of the attending orthopedists, it also includes examination and office record information on the private patients. This group of fractures of the hip has been classified into two groups only, intertrochanteric and intracapsular. The intracapsular fractures have not been sub-divided into their respective classifications as it is not felt that an evaluation of early functional results would

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Table I
Tabulation of Information on all Cases 1945-1948 Inclusive

1945		42 cases	
1946		21 cases	
1947		82 cases	
1948		77 cases	
Total		222 cases	
Intertrochanteric	131	59%	
Intracapsular	91	41%	
Male	91	41%	
Female	131	59%	
Average Age	67.5 years		
Male	55.5 years		
Female	75.1 years		
Oldest patient	95 years		
Youngest patient	16 years		
Average hospital stay	24.1 days		
White	195	87.8%	
Colored	27	12.1%	
Deaths	20	9%	
Deaths following treatment	13	5.8%	
Deaths prior to treatment	7	3.1%	
Intertrochanteric:		of total	of intertrochanteric
Male	53	23.8%	40.5%
Female	78	35.1%	59.5%
Intracapsular:		of total	of intracapsular
Male	27	12.1%	30.0%
Female	64	27.3%	70.0%

reveal any significant differences in the types of intracapsular fractures at the relatively early time of follow up comprising this report.

The tabulation of information included herewith is divided into two groups. First, the total of 222 cases is broken down into types of fractures, sex, race, average age at time of fracture, mortality, length of hospitalization, etc. Second, the cases for the years 1947 and 1948 are then analysed in detail as to the method of treatment and results obtained. In this group, the shortest period of follow up has been one year, the longest two years. It is, of course, obvious that no final conclusions can be made from such a short period of follow up, but it is intended to review this last group of cases at the end of five years and report results at that time.

Pre-Operative, Operative, and Immediate Post-Operative Management

It is the unanimous opinion of the various attending orthopedists at this hospital that hip fractures are emergency cases, and if possible the patients are prepared for operation within twelve hours after fracture. The average elapsed time, from time of fracture to institution of treatment, in the entire group of patients was fourteen hours. Medical consultation is obtained on many cases. Unless the patient is moribund, it is felt that operation and internal fixation of the fracture is the treatment of choice. With very few exceptions, all operative cases were nailed, using the "blind method" as advocated by Wescott and using portable x-rays as a check on the reduction of the fracture and placement of the internal fixation, nail or plate, as the case might be. General anesthesia was utilized on all but two cases in which operative intervention was used. Local infiltration was used in two cases. If the cardiopulmonary condition of the patient permitted, they were kept in bed until the third or fourth post-operative day and then lifted into a chair for a short period, twice daily. Post-operative skeletal traction was used in only six instances in this entire group of cases. Leg exercises, deep breathing exercises, and frequent turnings in bed are routine post-operative orders. If the physical condition of the patient permitted they were allowed up on crutches prior to discharge from the hospital. However, if the patient could not use crutches without putting weight on the fractured leg, they were not allowed to be ambulatory but confined to a wheel chair.

Late Post-Operative Management

Ward patients are examined in the Orthopedic Clinic at monthly intervals following hospital discharge. Weight bearing on the affected leg is not permitted until there is x-ray evidence of union. It is now felt that weight bearing prior to six months following fracture definitely contributes to non-union and loss of position of the fragments. The management of the private patients, in general, follows the same routine.

In evaluating the results obtained, no attempt has been made to tabulate the percentage of non-union, aseptic necrosis of the femoral head, traumatic arthritis of the affected hip, and range of motion of the hip, as these are facts which would be of no definite value at this early date but must be evaluated at the end of five year follow up. In this survey, we have tried to evaluate the cases on an early functional basis. How have these people with fractures of the hip responded to treatment? How are they able to ambulate? How much pain are they having in the involved hip and to what extent are they disabled in comparison to their pre-fracture condition? In answering the above questions on the cases followed up, it is hoped that such information, when compared with similar information from other clinics, will be of value in determining an outline of treatment for future fractures of the hip.

The early functional results obtained are broken down into four groups: poor, fair, good and excellent. *Poor:* Patient disabled to such an extent following fracture that they must either use crutches or are wheelchair patients. *Fair:* Patient able to ambulate with a cane but is considerably disabled due to pain or shortening of the affected leg. *Good:* Patient able to ambulate without aid except for the use of a cane occasionally and in whom pain in the involved hip is only slight. *Excellent:* Patient is able to ambulate freely and in general has no disability as a result of their fractured hip.

Of the total of 222 cases, twenty, or nine per cent, died as a result of their fracture. Seven of the twenty cases were moribund on admission and died before treatment for the fracture could be instituted. The remaining thirteen patients died following treatment of their fracture. Three of these thirteen deaths followed the application of well leg casts, and in two

cases a general anesthesic was used during the application of the casts. The remaining ten deaths followed operative treatment of the fracture. We have included all deaths which occurred during the hospital stay of patients regardless of cause. It is not felt that a death occurring several weeks or months following *hospital discharge* should be considered as a death attributed to the fractured hip *unless the patient has been totally physically incapacitated as a result of the fracture,* or treatment used.

There were four post-operative infections occurring in the entire group. One such infection resulted in an extensive osteomyelitis of the femoral neck and head with complete invalidism of the patient. The remaining post-operative infections were confined to the soft tissues and all healed without bony involvement.

The following statistical information (Table II) is a condensation of the years 1947-1948 and all fractures of the hip treated in this hospital during this two year period are included on whom the follow up of early functional results was obtained.

Table II

Total 1947-1948	159 cases		
Intertrochanteric	100	62.8%	
Intracapsular	59	37.1%	
Male	55	34.5%	
Female	104	65.4%	
White	141	88.6%	
Colored	18	11.3%	
Average hospital stay		26.4 days	
Deaths	11	6.9%	
Deaths following treatment	7	4.4%	
Deaths prior to treatment	4	2.5%	
Intertrochanteric:		of total	of intertrochanteric
Male	37	23.2%	37%
Female	63	39.6%	63%
Intracapsular:		of total	of intracapsular
Male	18	11.3%	30.5%
Female	41	25.7%	69.5%

The methods of treatment of the respective fractures was as follows: (Table III.)

In evaluating the functional results obtained, each patient has been placed in one of the four groups mentioned previously. As a further break-down, the four groups have been tabulated into the type of treatment given each case falling into that general

Table III

Methods of Treatment			
Intertrochanteric		Intracapsular	
Smith-Petersen nail and Thornton attachment	34	Smith-Petersen nail	52
Austin Moore blade plate	39	Smith-Petersen nail and Thornton attachment	4
Neufeld plate	1	Balanced skeletal traction	1
Well leg traction casts	16	No Rx. Death prior to treatment	2
Balanced skeletal traction	7		
Double spica cast	1		
No treatment, Death prior to Rx.	2		
Total	100	Total	59

group. Of the 159 cases we were unable to obtain the follow up on 37. Some information was available from the charts of many of these patients but they are not included in the final tabulation because we were unable to obtain sufficient information to be of value in appraising their functional result. There were fourteen additional patients who have not been included in the tabulation of results because of their physical condition prior to, and following, their fracture. This includes patients who were bedridden or wheelchair patients because of senility, or were hemiplegics from cerebral vascular accidents, or had mental instability, etc., prior to their fracture. A follow up was obtained on each of these fourteen patients, all of whom are still living, but because of their continued physical disability, it was not felt justifiable to include them in the tabulation of results. This leaves a total of ninety-seven of the 159 cases with reportable results, or 61%. The results of these ninety-seven cases are as follows:

Table IV

Poor	9	9.2%
Fair	24	24.7%
Good	40	41.2%
Excellent	24	24.7%

The results obtained in regard to the type of fracture are interesting and show:

Table V

Intertrochanteric			Intracapsular		
Poor	4	4.1%	Poor	5	5.1%
Fair	19	19.5%	Fair	5	5.1%
Good	25	25.7%	Good	15	15.4%
Excellent	16	16.6%	Excellent	8	8.2%
	64	63.9%		33	34 %

In the break down of the results as to the various types of treatment and the results obtained by each method, the most interesting and instructive figures are revealed, namely,

TABLE VI

INTERTROCHANTERIC		
Smith-Petersen nail and Thornton attachment	Poor	1
	Fair	4
	Good	10
	Excellent	3
Austin Moore blade plate	Poor	1
	Fair	7
	Good	8
	Excellent	9
Well leg traction casts	Poor	1
	Fair	6
	Good	3
	Excellent	2
Balanced skeletal traction	Poor	1
	Fair	1
	Good	3
	Excellent	2
INTRACAPSULAR		
Smith-Petersen nail	Poor	5
	Fair	5
	Good	15
	Excellent	8

DISCUSSION

From these figures, it is evident that in this group of cases the most satisfying results were obtained by use of either the Austin Moore blade plate or Smith-Petersen nail and Thornton attachment in the intertrochanteric fractures, and in the intracapsular fractures the use of a Smith-Petersen nail produced not only the most satisfactory results but also the only reportable results. The writers have made an honest effort to be as conservative as possible in analyzing the results. Where there has been any question as to what group an individual case should be placed in, we have placed such cases into a lower group rather than one of more satisfactory classification. The various types of treatment afforded these fractures is worthy of explanation. The use of well leg traction cases in the treatment of intertrochanteric fractures has been discarded at this hospital since early in 1948 because of persistent evidence of occurrence of coxa vara in many of the cases treated by this method. It is now felt that if the patient is able to tolerate any type of treatment, the treatment of choice is operation and internal fixation of the fracture. The cases treated by balanced suspended skeletal traction were so treated because of very severe comminution of the fractures and when, in the opinion of the attending orthopedist, internal fixation of their fracture would have been inadvisable. It is interesting that six of the seven cases so treated were below the age of 50 and this fact probably accounts for the negative mortality in this group. One of these cases so treated, however, developed a non-union after 3½ months of skeletal traction, requiring reconstructive surgery. As mentioned previously, skeletal traction was used post-operatively in six cases and, of these six, three obtained an excellent result and one a good result. It is not to be denied that this method of treatment afforded satisfactory results. However, of these six cases treated by traction, following operation, the oldest was 47 and the youngest 29.

It is the feeling of all the orthopedists treating these cases that accurate reduction and nailing of these fractures is the first consideration to be satisfied, but if traction and continued bed rest are necessary to hold the reduction of the fracture, at the expense of the patient's physical survival, then it is best to accept some loss of position with subsequent shortening of the affected leg and have the patient live.

No explanation is available from the chart as to why one patient with an intertrochanteric fracture was treated in a spica cast and why one patient with an intracapsular fracture was treated by balanced skeletal traction. Unfortunately, insufficient follow up information was available on both of these cases to include them in the tabulation of results. The four instances of intracapsular fractures treated with a Smith-Petersen nail and Thornton attachment were all high sub-capital fractures and the operator in each instance felt that firmer fixation could be obtained by use of the attachment rather than using the nail alone. It is now admitted, however, that the use of the Thornton attachment with the Smith-Petersen nail will not prevent the nail cutting through the neck or femoral head to some extent, as this occurrence has been observed, not only in this group of cases, but in other cases treated elsewhere.

SUMMARY

An analysis of fractures of the hip treated in a teaching hospital, using various methods of treatment

has been presented. The results are presented as early functional results with no attempt made to evaluate end results or anatomical results at this early period of follow up. The entire group will be reviewed at the end of five years and the anatomical results evaluated at that time.

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At What Distance Should One View Television?

For eye comfort, how far should a person be from the screen to view television? Dr. William Blake, of Astoria, Long Island, N. Y., put this question to the *Journal of the American Medical Association.* Because of its controversial nature, the Journal submitted the question to three "competent medical authorities," and they all came up with virtually the same answer:

As a general recommendation for small or moderate-sized screens, a distance of roughly 10 times the diameter of the screen is found most comfortable for clear viewing and avoidance of eye fatigue.

This, substantially, is the same opinion as that expressed by the American Society for the Prevention of Blindness.

One authority, whose answer is printed in the February 3 issue of the *A.M.A. Journal,* says "the optimal distance from which one should watch television varies from one person to another, depending at least partly on his state of refraction and on the size of the screen. Placement of furniture and room size also influence one's preference. In general, a distance of 10 feet or more would be preferable, since then there is necessary only a moderate amount of convergence and accommodation. One should avoid sitting closer than five feet."

The authority said further that if eye fatigue occurs at a distance roughly 10 times the diameter of the screen in a person with no visual abnormalities, "the distance may be changed." "In fact, changing occasionally from one chair to another should help in avoidance of fatigue not only of the sense of vision but of the neck muscles. Regardless of the distance of viewing, there seems to be no evidence that eye fatigue in the 'normal' eye will cause pathological changes. The chief problem is that of comfort."

One of the other authorities, whose answers also were published in the *A.M.A. Journal,* said that the more defects there are in the television picture, "the greater is the tendency for visual fatigue." "This," he said, "includes such defects as out-of-focus pictures, those that are too dim, too flat and with too much contrast, and those that weave and jump. The viewing distance should therefore not be near enough for these defects, especially the graininess, to be overly apparent. This is more important than size of the picture, although the graininess and size may go together. Furthermore, the appearance of graininess will increase with the increase in brightness of the screen. Television should be observed in a lighted room, so that there is not too great a contrast between the screen and the background."

The third authority said that "when television is viewed from a distance less than 10 times the diameter of the television tube, no harm whatever is done to the eyes but the picture loses in quality as the scanning lines then become visible."

THE CARE OF THE PREMATURE INFANT IN PRIVATE PRACTICE

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This study was undertaken to show the mortality in premature infants handled as private patients in several different hospitals in the city of Richmond.

The premature infants in this study were all private patients. They were seen over a 5 year period, 1944-1949, at the Hospital Division of the Medical College of Virginia, St. Luke's Hospital, Stuart Circle Hospital, Johnston-Willis Hospital, Grace Hospital and Retreat For The Sick. In none of these institutions was there a unit exclusively designed for premature infants and in most of them the prematures were placed in the regular newborn nursery unit. At the Medical College of Virginia, there existed the best physical arrangement for prematures and there the premature infants were kept apart from the normal newborn group in a special nursery used for all other infants under 3 months of age who had no communicable disease. Since there were not enough incubators always available in any of the hospitals, many of the premature infants included in this study were kept in a heated crib throughout much or all of their hospital stay.

TABLE I
RESULTS AND DISCUSSION

Weight	Mortality Statistics Living	Died	Per cent Mortality
Over 2000 Grams	135	11	7.5
1500-2000	32	10	23.3
1000-1500	11	9	45
Below 1000	0	1	100
Totals	178	31	14.8

The nursing personnel also varied a great deal. At the Medical College of Virginia Hospital there were specially trained graduate nurses, but these were in the minority and student nurses constantly rotated through this service as part of their training. In all except one of the other hospitals, the same nursing arrangement existed, and in that one, practical nurses aided the graduate personnel. In a few cases, special duty nurses were assigned to the care of the premature for at least the first few days of life and in the rare instance for a longer period of time.

This series of cases totals 209, with a weight range from 2500 grams to below 1000 grams. Our regimen was fairly uniform as to feeding and no attempt will be made to discuss our attitude toward different products now in use. Our only purpose is to show the results we believe may be expected with good medical and nursing care under conditions normally found in the state of Virginia.

We believe this gives a fair index of minimum expectations for those practitioners who, like us, are caring for prematures under regimens and environments which are neither extraordinary nor unusual.

The overall mortality rate of the entire group was 14.8 per cent. In the group between 2000-2500 grams there were 146 cases and the mortality rate was 7.5 per cent. In the group between 1500-2000 grams, of which there were 42 cases, the mortality rate was 23.3 per cent. In the group between 1000-1500 grams, there were 20 cases and the mortality rate was 45 per cent. The only case weighing less than 1000 grams at birth did not survive.

Table II presents the mortality rate as computed by Bane, Hubbard and Pennell. These cases were collected from a nationwide questionnaire to which about one-half of the hospitals in this country having a minimum of 800 deliveries per year responded. The results are comparable to those of the authors.

TABLE II
(AFTER BANE, HUBBARD AND PENNELL)
FATALITY RATE AMONG PREMATURE INFANTS BORN IN HOSPITAL BY WEIGHT GROUP

Weight Group	Cases	Deaths	Fatality Rate (per cent)
2,001-2,500 gm.	13,960	1,020	7.3
1,501-2,000 gm.	6,333	1,446	22.8
1,001-1,500 gm.	3,185	1,734	54.4
1,000 gm. or less	2,116	1,896	89.6

CONCLUSION

A series of 209 prematures treated in 6 hospitals in Richmond, Virginia, is presented and the mortality rates reviewed.

414 West Franklin Street.

SACRO-ILIAC DISARTICULATION (HEMIPELVECTOMY)—
A Case Report

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Sacro-iliac disarticulation or hemipelvectomy is a radical surgical procedure involving the complete amputation of the lower extremity, corresponding buttock, and innominate bone. The operation was first successfully performed by Girard[1] in 1895; and since that time approximately 160 cases have been reported. An excellent review of the subject was made by Pack and Ehrlich[2] in 1946.

A radical surgical procedure for malignant disease becomes acceptable only when its indications have been established, its operative mortality is reasonably low and its possible end result justifies any resulting deformity. Hemipelvectomy can be performed for malignant tumors of the upper femur, innominate bone and adjacent soft parts with the same operative mortality rate and with a higher cure rate than can pancreato-duodenectomy or total gastrectomy for carcinoma of the pancreas or stomach. Despite these facts, sacro-iliac disarticulation remains unacceptable to many surgeons who perform pancreato-duodenal resections and total gastrectomies with great enthusiasm. The relative infrequency with which hemipelvectomy is performed can be partially attributed to the mutilating features of the operation.

The purpose of this report is to add to the literature another case of successful hemipelvectomy with the hope that it will strengthen the already existing evidence that the operation is useful in the management of certain neoplasms of the lower extremity, groin, buttock, innominate bone, and pelvic parietes.

Case Report

H. H. (U. Va. # 279672), white man of 56, was admitted to the University of Virginia Hospital April 21, 1949, for treatment of a recurrent tumor of the left thigh. Two years ago, in another city, a subcutaneously situated fibrosarcoma had been excised from the upper anterior thigh. There was no evidence of recurrence until three months ago when he had noted a small nodule in the central portion of the operative scar. The mass rapidly increased in size, and became ulcerated and grossly infected. In recent weeks the lesion had bled slightly on several occasions and had become quite painful.

Physical Examination: A well-developed and fairly well-nourished white man with cardiac enlargement, pulmonary emphysema and prostatic hypertrophy. Blood pressure was 105/70, T. 100.4, P. 100. On the upper anterior surface of the left thigh there was an ulcerated, infected, malodorous, bleeding tumor about 15 cms. in diameter (Figure I). The edges of the lesion were raised for about 5 cms., and there was a central crater 8 cms. in depth. The superior border of the ulcerated portion extended to within 5 cms. of the inguinal ligament, while the tumor was surrounded by a zone of induration which extended actually to that level. Several large, firm, non-tender lymph nodes were palpable in the left groin.

Laboratory Data: RBC 3,900,000; Hb. 10 grams; wbc 10,500 with 85% PMNs. Urinalysis and Wassermann test were negative. Urea, PSP, total serum protein, calcium, phosphorus and alkaline phosphatase were normal. The electrocardiogram revealed changes consistent with myocardial damage secondary to coronary sclerosis, and the orthodiagram showed left ventricular enlargement. Roentgenograms of the chest disclosed cardiac enlargement, and no evidence of pulmonary metastasis. X-rays of the pelvis and left femur were negative. Biopsy of the tumor revealed a fibrosarcoma.

Pre-Operative Preparation: The administration of 1500 cc. of whole blood overcame the anemia and parenteral penicillin and local warm wet compresses reduced the infection about the tumor. Repeated enemata cleansed the rectum. On the morning of the operation a Foley catheter was inserted into the bladder, a Levine tube was introduced into the stomach, and the affected extremity including the tumor was snugly encased in an elastic bandage.

Operative Procedure: Nitrous oxide-ether anesthesia was employed. After the skin of the operative area had been cleansed with ether and phemerol

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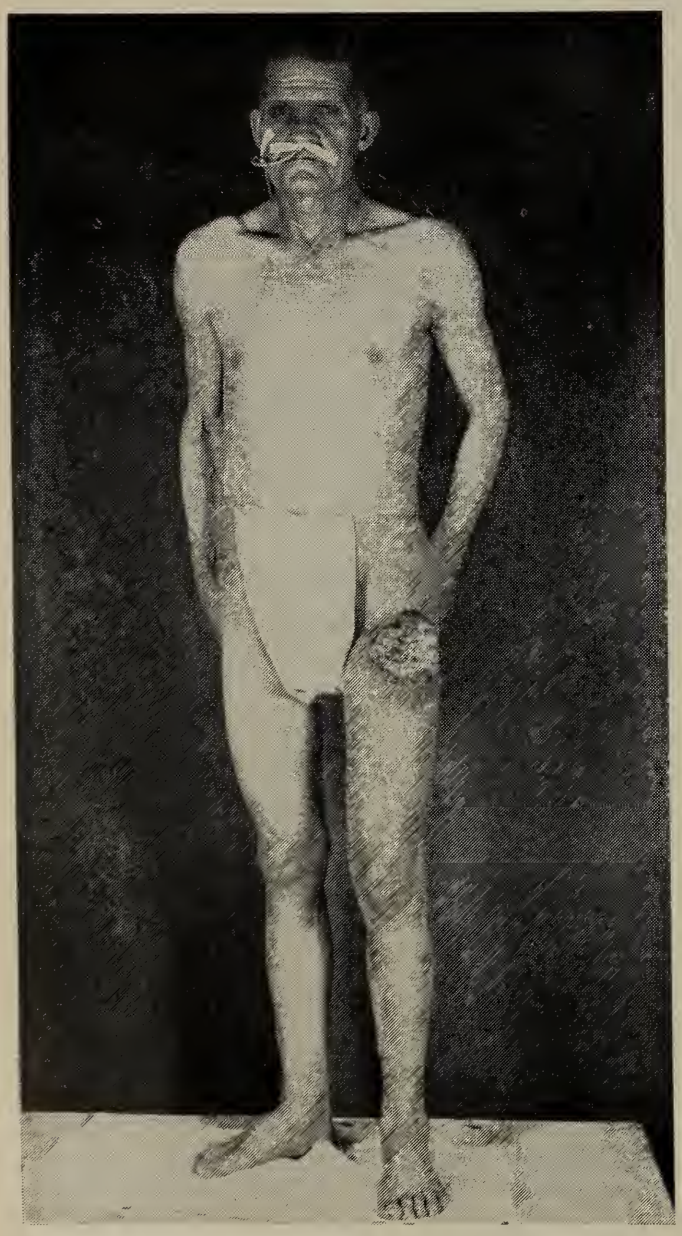
the scrotum was sutured temporarily to the opposite thigh, and the anus was closed temporarily with a purse string suture. The entire field was again prepared and appropriate drapes applied. The skin incision was begun just above the pubic tubercle and extended superiorly and laterally above the iliac crest and then inferiorly above the greater trochanter along the infra-gluteal fold to the perineum. The perineal end of the incision was then connected with the medial end of the anterior incision. The anterior dissection was carried down through the subcutaneous tissue and fascia to expose the rectus abdominis muscle which was severed at its insertion into the pubis. The inguinal ligament was totally excised, thus completing the detachment of the left anterior abdominal wall from the bony pelvis. The spermatic cord, peritoneum, bladder and ureter were carefully retracted mesially. The external iliac artery was divided between silk ligatures about 1½ cm. distal to its point of origin; and then the external iliac vein was ligated and severed. The symphysis pubis was exposed and divided with a Gigli saw. Hot packs were employed to control the brisk bleeding which resulted. The patient was turned on his right side, and the posterior flap reflected almost to the mid-line. He was returned to the supine position and the anterior dissection resumed with detachment of the quadratus lumborum muscle and exposure of the iliac crest. The sacro-iliac joint was exposed by dividing the ileopsoas, iliacus, pyriformis, gemelli, and the levator ani muscles. A chisel was employed to disarticulate the joint, using the anterior approach. Sharp bony prominences were rongeured away, and bleeding was controlled with bone wax. The patient was shifted on to his right side and the posterior dissection continued with division of the posterior attachment of the glutei, and ligation and division of the obturator, superior gluteal and inferior gluteal vessels. With the extremity flexed and abducted, its removal was completed by division of the sacral ligaments and the major nerve trunks. The nerves were ligated but not injected. The wound was irrigated with warm saline and closed in layers with interrupted sutures of silk. Two Penrose drains were placed in the depths of the wound and brought out at the ends of the incision. A pressure dressing was applied after the anal and scrotal sutures had been removed. The patient tolerated the procedure nicely and was in excellent condition at its termination. Four thousand cc. of whole blood (probably excessive) were administered in the operating room.



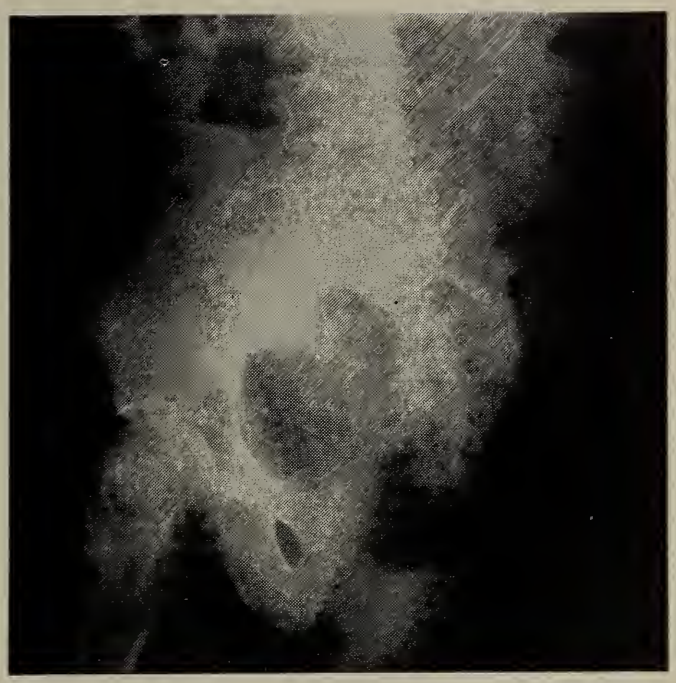
I. Recurrent fibrosarcoma. Deep infiltration extended to the level of the inguinal ligament.

Post-Operative Course: Convalescence was smooth. To prevent abdominal distention continuous suction was exerted on the Levine tube for four days. The Foley catheter was removed from the bladder when the patient was permitted to sit in a chair on the 6th day. The drains were shortened on the 4th day and completely withdrawn on the 8th day when the sutures were removed. Though there was a narrow zone of slough along the central portion of the posterior flap, the wound was completely healed at the time of the patient's discharge from the hospital on his 17th post-operative day. During the five days

preceding his discharge from the hospital he was ambulatory with the assistance of crutches (Figure II); dressed himself; and declined the assistance of nurses and orderlies.

II. Photograph of patient 14 days following hemipelvectomy.

Pathology Report: Fibrosarcoma of the left upper thigh without involvement of the femur or regional lymph nodes. The tumor apparently had been completely excised.



III. Post-operative roentgenogram showing the extent of the skeletal resection.

Summary

The surgical management of a 56 year old man with a recurrent fibrosarcoma of the upper thigh is discussed. Roentgenograms and photographs of the patient are presented.

It is urged that sacro-iliac disarticulation be more frequently employed in the treatment of neoplasms of the upper femur, innominate bone, and adjacent soft parts.

Later note (October 10, 1950): This patient was last seen on June 15, 1950 with evidence of pulmonary metastasis.

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THE TOXICITY OF ANTIHISTAMINIC DRUGS: A CASE REPORT AND DISCUSSION

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The numerous antihistaminic drugs are now being used by the medical profession for a wide variety of diseases. They have been found to be of definite value in the management of certain allergic disorders. However, many isolated reports of their beneficial effects have been made in other allergic and non-allergic diseases ranging from bee stings[1] to leprosy[2], Parkinson's disease[3], and angina pectoris[4], to mention a few. The results of a great many of these reports have not been substantiated, but, nevertheless, the antihistaminic drugs are being used rather recklessly and in large quantities by the medical profession in these and many other diseases with vague and doubtful results. Moreover, they have recently been introduced to the laity and are being sold without restriction as a treatment for the common cold. This is being done in spite of the fact that the studies responsible for this usage were based on patients not conclusively diagnosed as having colds and with poor or no control groups of patients[5]. It has been estimated[6] that $72,000,000 worth of these drugs will be sold over the counter in 1950 and that an additional $28,000,000 worth will be prescribed.

The side effects of these drugs consisting of drowsiness, dizziness, nervousness, and gastro-intestinal symptoms are well known[7,8] and are usually easily controlled by reducing the dosage, discontinuing the drug, or resorting to a different antihistaminic. However, the fact that they produce severe toxic reactions, for which there is no effective treatment, and occasionally death[9,10,11] has been discussed relatively little. For this reason, and because it is felt that not enough emphasis has been placed on the importance of safeguarding these drugs from children, and of warning the laity against excessive self-medication with them, the following case is reported.

Case Report: B. S. B., a white female child, age 18 months, who had been in previous good health was admitted to the hospital on February 3, 1949, with a history of having ingested four to six capsules (200 to 300 mgm.) of benadryl about 6 hours prior to admission. The benadryl had been prescribed for the mother because of hayfever. The capsules had not been placed in an inaccessible place and when the mother found the child with the capsules she estimated about four to six capsules were absent from the box.

Admission physical examination revealed a well developed and well nourished white female child in a rather marked state of excitement. There were jerky, poorly coordinated, and purposeless movements of the head and extremities. She was unable to pick up objects because of incoordination. She was not unconscious, but did not seem to understand simple requests made by her mother. There was a bilateral internal strabismus. The pupils were markedly dilated and did not respond to light. Abdominal and patellar reflexes could not be elicited. She was inclined to keep her head drawn to the left and when helped to a standing position she tended to fall to the left. The remainder of the physical examination was essentially normal.

Routine laboratory studies were as follows: R. B. C. 5,360,000; W. B. C. 12,800; Hb. 13.5 grams per cent. Urinalysis revealed no albumin, sugar, pus cells, casts or red blood cells.

The child remained in an excited state with the signs she had on admission for about 12 hours, then gradually became quieter until at the end of 14 hours she fell into a rather profound sleep and slept for about 8 hours. About 24 hours after the ingestion of the benadryl she was apparently normal and all reflexes had returned.

As for therapy, no special routine was carried out. During the excited phase of the intoxication sedation was considered, but it was felt that later on it might augment the depressive effects of the benadryl. Caffeine sodium benzoate was given hypodermically during the period she slept.

Discussion: The above case illustrates the opposite toxic effects benadryl can have on the central nervous system. Both stimulation and depression of the nervous system can occur as pointed out by Loew in a recent article.[12] Our case showed a marked pic-

ture of stimulation of the central nervous system, which was followed by signs of a depression as evidenced by a deep sleep. There was some overlapping of signs of stimulation and depression, as shown by depressed abdominal and patellar reflexes, and paralyses of the external rectus muscle of the eyes during the excitatory stage. Snyderman reported a similar case[13] of stimulation and depression of the central nervous system manifested by drowsiness initially and convulsions later in a child who accidently ingested 800 mgm. of thenylene hydrochloride.

Benadryl is commonly known to produce drowsiness as a side effect. One series[7] of cases showed drowsiness accompanied the use of this drug in 61% of the cases. This side effect is common enough that benadryl is often used as a sedative and it is felt that the benefits derived from this drug in the oral treatment of allergic dermatoses is as much due to its sedation as to its antihistaminic action. The fact that this depressive effect can be dangerous is pointed out by the Council on Pharmacy and Chemistry of the American Medical Association[14] who warn that many people become drowsy from these drugs and fall asleep at work, occasionally while driving autos or operating machinery. One case report[9] has been found in the literature in which a fatality was thought to be due to the depression of the central nervous system.

As for the analeptic properties of the antihistaminic drugs, Churchill and Gammon[15] have shown that benadryl and pyribenzamine both tend to produce seizures in patients with focal lesions of the cerebral cortex. Pyribenzamine also provokes attacks of petit mal, while benadryl tends to suppress them. They conclude that patients subject to convulsive seizures should be given antihistaminic drugs with care.

The case reported here did not develop a true convulsion but muscular twitchings accompanied by jerky movements of the extremities were present. Others[16,17] have reported this increased neuromuscular activity and several cases of true convulsions have been reported[10,13,18] in persons who had no tendency to such seizures. One such case of central nervous system stimulation by thenylene has been reported which ended in death[10].

Dilatation of the pupils which was seen in our case has been noted by others[10,13]. Also strabismus has been noted elsewhere[16].

Although our patient was too young to determine disorientation, this seems to be one of the main toxic effects the antihistaminic drugs have on the central nervous system. McGavack *et al.*[8] found this to be true more often with benadryl than with pyribenzamine.

Other milder central nervous system symptoms caused by antihistaminic drugs are: insomnia, dizziness, headache, and tinnitus[7].

The cardiovascular system is also affected by the antihistaminic drugs. Geiger *et al.*[19] reported a case in which a shocklike state was produced after a patient had been administered 350 mgm. of benadryl orally. This patient was found unconscious, cold, pale, and pulseless, with the blood pressure unobtainable. On the other hand, reports[20] have been made of transient hypertension following oral benadryl therapy.

Mackmull[21] has shown that dosages of and above 100 mgm. of benadryl intravenously elevated the systolic and diastolic blood pressure 5 to 20 mm. for two hours or more. Large doses of intravenous benadryl also cause cardiac acceleration, shortened diastole, and changes in T and P waves of the electrocardiogram. He concludes that large doses of benadryl should not be given intravenously to hypertensive patients.

Another serious toxic effect of the antihistaminic drugs which has been reported is agranulocytosis. Blanton and Owens reported such a case[22] following the use of pyribenzamine for eight weeks. Another case[23] of agranulocytosis developed after four grams of pyribenzamine had been administered over five and one-half weeks. Recently diatrin has been reported[24] to cause a similar reaction. It has been pointed out[24] that both pyribenzamine and diatrin have the "benzamine" linkage which is also present in aminopyrine, not an antihistaminic, but another common cause of agranulocytosis. Kracke and Parker[25] have found this linkage to be the cause of agranulocytosis.

Other reactions that are serious enough not to be classified as side effects are urinary obstruction[26], ocular changes[27], and dermatoses[28].

Pyribenzamine[26] and thenylene[29] have been reported to cause urinary obstruction probably due to their spasmogenic effect on the vesical sphincter. Discontinuance of both drugs produces alleviation of the symptoms.

Ocular effects that have been noticed[27] are refractive changes, corneal edema and permanent vitreous opacities. The permanent vitreous opacities and a case[16] in which a heminopsia persisted after a reaction to thenylene are the only permanent effects of any kind from antihistaminic toxicity that can be found in the literature.

Barksdale and Ellis[28] report that the antihistaminic drugs used locally have very little effect on pruritus ani, atopic dermatitis, urticaria and poison ivy. On the contrary, they found that they sometimes produce vesicular lesions. They conclude that because of such allergic reactions these drugs are contraindicated for topical use.

There is no definite evidence that there is a cumulative toxicity of the antihistaminic drugs. Schwartzberg and Willerson reported a case[30] in which symptoms did not entirely disappear for nearly two months after benadryl had been discontinued. They felt that this case was likely evidence of its cumulative effect.

A great deal concerning the pharmacology of the antihistaminic drugs is not known. They have many other actions beside their antihistaminic effects. As Sternberg *et al.*[31] have recently pointed out they also have antiacetylcholinic, local anesthetic, sympathomimetic, and quinidine like properties. Haley and Harris[32] have shown that the antihistaminic drugs produce vasoconstriction of capillaries through their effect on the precapillary sphincter. Benadryl and pyribenzamine have been found to have opposite actions on dog intestine and uterus[33]. Benadryl produces an antispasmodic effect and pyribenzamine causes contraction of these tissues.

Concerning the treatment of the toxic manifestation of the antihistaminic drugs, there is no specific antidote. There is a danger in using sedatives for the central nervous system symptoms. It has been shown[34] that several antihistaminics augment the effect of barbiturates, and it can be surmised that the reverse is true. As shown in our case, the stimulation of the central nervous system may be followed by a depression and sedatives would only accentuate this.

Administration of histamine would seem to be the logical antidote, but there is no data to bear this out. As most of the toxic effects of the antihistaminic drugs are not due to their antihistaminic action, histamine might not only be of little or no benefit, but could prove harmful. David and Karr[35] have mentioned this, especially in the treatment of benadryl toxicity. They point out that histamine causes vasodilatation and increased capillary permeability which would superimpose more shock on the shock from benadryl.

To reduce side effects Brown and Brown[36] suggest the use of a combination of benadryl and aminophylline. This seems to reduce the side effects, but there has been no definite evidence it will prevent severe reactions.

These drugs are an important addition to the armamentarium of therapy, but due to the fact that they are being used in such large quantities and at times in a rather haphazard and indiscriminate manner, this case report and discussion is made to emphasize that they can produce serious toxic reactions and have produced fatalities. It is hoped that in the future their sale will be restricted and that physicians will prescribe them only for diseases that have been proven without a doubt to be benefited by them.

SUMMARY

1. Antihistaminic drugs are not without severe toxic reactions and sometimes fatalities result.
2. A case of benadryl poisoning manifested by both stimulation and depression of the central nervous system is reported.
3. A brief review of the literature concerning antihistaminic toxicity is given.
4. A plea is made for a more rational and restricted use of these drugs.

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PELVIC EVISCERATION FOR ADVANCED PERSISTENT OR RECURRENT CARCINOMA OF THE CERVIX

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and
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In general, at the present time, according to Read, the treatment for most cases of carcinoma of the cervix is irradiation by radium and deep x-ray therapy. The five year salvage by this method is about 35 per cent. The use of supra-voltage x-ray with the million volt unit and the employment of the vaginal cone adaptor may improve the results to some extent. A small percentage of cases are selected for surgical extirpation: those patients in good physical condition with stage I and grade I lesions in which no contraindication to radical surgery, such as systemic disease or obesity, exists. Some more advanced cases (stage II) which present special factors which militate against radiation are also consigned for surgery. These factors are: 1. Radio-resistance proven clinically or cytologically; 2. Adenocarcinoma of the cervix; 3. Stenosis of the vaginal vault; 4. The presence of pregnancy; 5. The association of a pelvic tumor such as a fibroid, ovarian cyst, or tubal disease; 6. The refusal of the patient to accept radiation.

There is also a borderline group of cases (stage II-III) in which the primary treatment with irradiation is followed by iliac lymphadenectomy or radical panhysterectomy of the Wertheim type, with pelvic lymph node dissection.

Following primary treatment with irradiation there is a group of cases in which the malignant process persists or recurs and remains localized in the pelvis without evidence of distant spread.

According to Brunschwig, it is a characteristic of carcinoma of the cervix to remain within the pelvis for long periods without distant metastases. Many deaths from carcinoma of the cervix are due to uremia or pyelonephritis from ureteral involvement. Other deaths are due to cachexia from the pain produced by the advancing disease. Bladder or bowel function is often seriously interfered with by obstruction or fistula formation and contributes to the mortality. Severe vaginal hemorrhage and infection may be prominent factors in the ultimate mortality.

Palliative procedures aimed at the relief of pain by sedation or hypnotics may often fail to accomplish their purpose and even if they are successful add nothing to the useful or happy life of the individual. The relief of pain by the neurosurgical procedures of cordotomy, prefrontal lobotomy, or alcohol injection of the nerve roots may relieve the pain but do not prevent the malignant process from causing death by local extension to vital organs.

From these considerations it is obvious that there exists a place for radical surgery in certain of these persistent or recurrent cases of cervical cancer, as a palliative or even as a curative effort.

A distressing and desperate case recently treated by evisceration with an excellent result follows:

M. W., a white female, aged 47, first came under our observation in July, 1948, because of severe pelvic pain, vaginal bleeding, foul leukorrhea, dysuria, and marked constipation.

Eight years previously she underwent an abdominal supracervical hysterectomy for fibromyoma. She had been well up to April, 1947, at which time dysuria, leukorrhea, and vaginal bleeding caused her to seek medical attention. At the Columbia Medical Center a laparotomy was performed and a 12 cm. irregular nodular pelvic tumor exerting pressure on the bladder and right ureter was found. A partial excision of this mass was performed and the tissue was reported "anaplastic carcinoma."

The patient's symptoms improved for two months and then the vaginal bleeding recurred and she was given three courses of deep x-ray therapy up to the tolerance of the bowel. After a brief remission, her symptoms returned and she came under our care.

She was treated symtomatically for a few days while we communicated with her previous doctors. She was too uncomfortable even with heavy sedation and narcotics to remain at home, and therefore was admitted to St. Josephs Hospital.

From the Gynecological and Surgical Services, St. Joseph's Hospital, Far Rockaway, N. Y.

The general examination was normal. Pelvic examination revealed a tumor of the vaginal vault and cervical stump with parametrial infiltration. The rectal examination showed an extrinsic tumor mass almost completely stenosing the rectum.

Laboratory Findings: Urine showed marked pyuria, NPN 20 mg. per cent; Blood count 75 per cent hgb.; 3,780,000 RBC; 9,800 WBC; with 90 per cent polymorphonuclear neutrophils of which 13 were bands and 3 juveniles. Intravenous urogram showed both kidneys to be normal. Right ureter was not seen and there was extrinsic pressure on the fundus of the bladder. Chest x-ray was negative for metastasis.

The patient was treated with narcotics, penicillin, triple sulfa drugs, teroperin and massive doses of testosterone, with no improvement in her symptoms. On August 1st she developed weakness of her legs with bilateral ankle clonus and Babinski sign. Our impression was that the leg signs were due to extrinsic pressure on the lumbosacral trunks by the pelvic tumor. Neurological consultation was "metastasis to the central nervous system." On August 3rd, the blood alkaline phosphatase was 4.8 King Armstrong units which is normal and against bony metastasis. The most distressing symptoms that the patient complained of were rectal pain and pressure with obstipation.

Cathartics and enemas were ineffectual in relieving the pain or constipation.

It was decided to perform radical palliative surgery to prevent intestinal and urinary obstruction. While preparing the patient for the procedure, an acute complete large bowel mechanical obstruction developed with the classical symptoms of cramps, distention, vomiting, constipation and with x-ray evidence of fluid levels and loop distention. On the same day, August 11th, a colostomy was performed as an emergency procedure. With the functioning colostomy the distention subsided and the bowel was irrigated and purged through the colostomy. Patient was given large doses of sulfathalidine. The urinary symptoms and retention and neurological signs persisted. On September 4th an abdominal-perineal resection of the cervix, tumor bladder, rectum, sigmoid, descending colon, vagina and vulva was performed and ureters transplanted into the large intestines. The operation took 9 hours and was performed under cyclo-propane anesthesia. During the procedure the patient was given 7 pints of blood, 2 units of plasma, 2,000 cc. of glucose and saline.

Surgical Procedure.—A laparotomy was performed. The hypogastric vessels were ligated and divided. The urinary bladder and pelvic tumor were freed entirely from the symphysis pubis down to its attachment to the urogenital diaphragm. The iliac, hypogastric, obturator, and ureteral nodes were excised in a block dissection. The descending colon was transected. The right ureter was implanted into the cecum and the left ureter into the descending colon, following the Coffey technique. The upper end of the descending colon was then brought out of the abdomen through a stab wound. The mid line wound was closed with wire suture and the patient placed in lithotomy position. An elliptical incision extending from the clitoris anteriorly to the tip of the coccyx posteriorly was performed and the entire freed pelvic contents removed from below. The perineal wound was closed except for a packing inside a rubber sheet drain.

Postoperative Course: The patient recovered but not uneventfully. The first day she required oxygen because of dyspnea and a rapid pulse and high fever due to a transfusion reaction.

2nd day post op. The general condition was good; NPN 38 mg. per cent.

3rd day post op. NPN 42 mg. per cent and urine appeared at the colostomy.

5th day post op. The packing was removed from the perineal wound.

6th day post op. The wet colostomy was working well.

9th day post op. Neurological examination negative, and patient out of bed.

14th day post op. There was superficial separation of the wound.

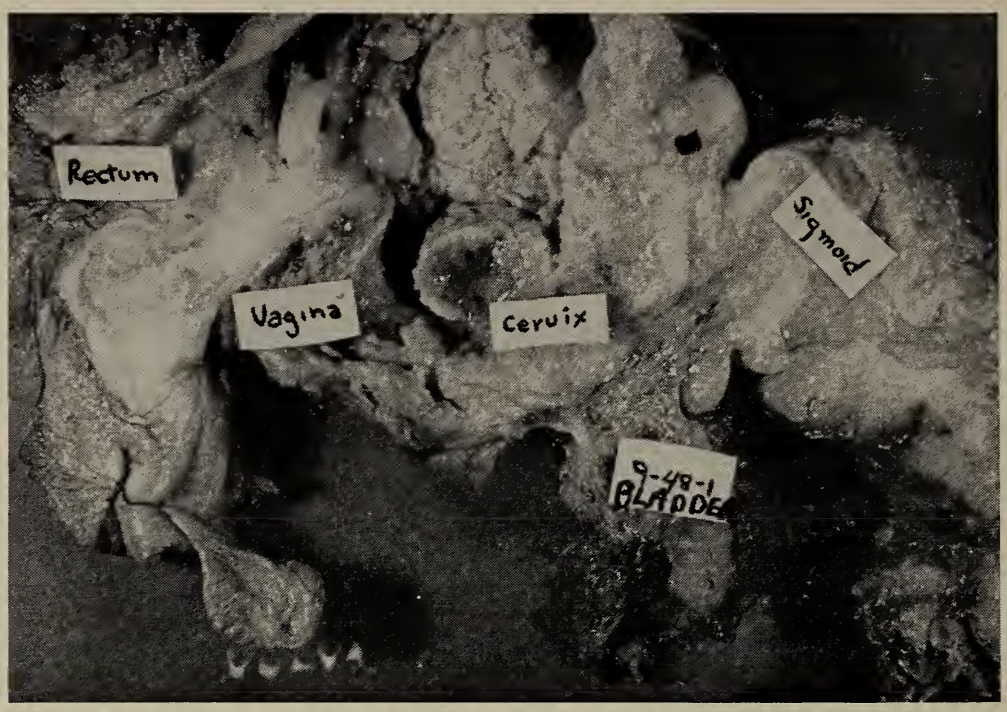
21st day post op. The wound was resutured.

6th week post op. The wound was well healed, perineal cavity closing by granulation tissue. Intravenous pyelogram showed good function with a mild bilateral hydronephrosis.

7th week post op. Patient was discharged.

One year and a half post op. Patient is socially and economicaly competent with a wet colostomy under bag control.

Surgical specimen consists of a large mass of tis-



sue made up of the vulva, vagina, cervix, tumor, bladder, rectum, sigmoid, and part of the descending colon. The skin and muscles of the entire perineum were attached to the specimen. The external genitals including the labia, majora and minora, were present. About 60 cc. of necrotic tumor tissue was present in the vagina.

On the anterior aspect of the specimen is the entire urinary bladder and perivesical fat behind which a large rounded tumor mass about 12 cms. in diameter is present and intimately attached to the bladder and rectum. Attached to the bladder are 10 cms. of markedly thickened ureters. The right ureter is dilated to 1 cm. in diameter. On the posterior aspect of the specimen is found the rectum, sigmoid and 38 cms. of terminal colon. A large mass lies between the bladder and rectum but does not erode the mucosa of either organ. A second tumor mass 5 cms. in diameter is present on the posterior aspect of the recto-sigmoid. The muscular wall of the colon is markedly thickened to 1 cm.

Microscopic Diagnosis: Anaplastic carcinoma involving the cervical stump, the urinary bladder, the recto-sigmoid and the paracolic lymph nodes.

SUMMARY

A radical pelvic evisceration for advanced and obstructing cervical cancer modified the disease process in a favorable manner. The follow up is only one year and a half, but to date there is no pain or functional disturbance. The patient is doing her own household duties and is socially competent. Digital exploration through the colostomy fails to reveal any tumor recurrence. The perineal cavity is entirely closed.

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TECHNIQUE OF BLOOD PRESSURE DETERMINATION IN CHILDREN

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Blood pressure determination is not often an important feature in evaluating the health status of a child. Little has been written on this subject and many texts do not mention it in detail.

When confronted with kidney disease, intracranial disease, or various metabolic disorders the trend of blood pressure is important to follow. Abt and Feingold[1] describe a "physiologic hypertension" in certain healthy adolescent children who have systolic blood pressure readings of 150-160 mm. Hg. Such elevations gradually subside without treatment and without impairment to future health.

The procedure to be useful to the pediatrician must be accomplished as simply as it is in adult medicine. Most physicians have a standard blood pressure cuff of 12 or 13 cm. in width, and this is used on adults of all sizes. It is the purpose of this paper to review known facts and to present them in such a way that the doctor may use the equipment at hand.

Erlanger[2] established the fact that a narrow cuff gives a higher blood pressure reading than a broad one. Hamilton, Woodbury, and Harper[3] cannulated various arteries of adults and found that the direct method compared closely with the indirect or auscultatory method.

Obviously a standard cuff cannot be used on an infant or small child. Woodbury, Robinow, and Hamilton[4] cannulated umbilical arteries of newlyborns and found that an arm cuff of 2.5 cm. in width most closely approximated the direct blood pressure determination.

Judson and Nicholson,[5] and, later, Faber and James,[6] established normal values or standard blood pressure readings for children of various ages, using cuffs which varied in width from 7.5 cm. up to 13 cm.

Janeway[7] found that the size of the arm or the amount of soft tissue present played a minor role in altering blood pressure reading. However, the site is important, for Hamilton, Woodbury, and Harper[3] in their direct method of blood pressure determination demonstrated that the systolic pressure increased as the distance from the heart was increased. For example, blood pressure in the femoral artery was 20 mm. of Hg. greater than the blood pressure taken in the axillary artery, and in the dorsalis pedis, 55 mm. Hg. above the femoral reading. The diastolic readings at the three sites mentioned were essentially the same.

Day[8] devised a very ingenious cuff, the width of which could be varied according to the size of the child. Graham, Hines, and Gage[9] made their determinations with two-thirds of the upper arm covered by the cuff and this technique is recommended in the Mitchell and Nelson text-book.[10] Allen-William[11] used a cuff which covered one-half of the upper arm. Downing[12] selected a cuff which was in proportion to the size of the average child as the adult cuff is to the average adult.

By observations of our own made on 28 healthy office patients, ranging in age from 3½ to 12 years, who returned for periodic health examinations, we found that the systolic pressures measured by a wide cuff were approximately 10 mm. lower than when the cuff was folded double. The diastolic pressure change was too slight to be of clinical significance. The average blood pressure reading with the usual adult cuff was 97/66 mm. Hg. When the cuff was doubled longitudinally (which gave a cuff 6 cm. wide) the average reading was 107/69 mm. Hg.

Determinations were made on a similar group of 14 children (ranging in age from 4 to 12 years) with the adult cuff and the standard child cuff of 9 cm. on the other arm. The former averaged 98/64, the latter 100/67 mm. Hg.

In a like group of 26 children the child's cuff was used on one arm, the folded adult cuff on the other. These averaged 100/68 and 104/70 respectively.

When a group of 14 children were measured, using the adult cuff, the child's cuff, and the folded adult cuff successively, the average blood pressure readings were as follows: 98/64, 100/69, and 105/71 mm. Hg.

Conclusions: In infants a cuff of 2.5 cm. has been found to be most accurate. In adults a cuff of 12 cm. or more is best. In children we recommend that the examiner use a cuff of proportionate width which fairly well covers the upper arm of the child or fold an adult cuff longitudinally. If the same tech-

nique is used several times on the same patient the readings will be sufficiently accurate to detect any significant change in blood pressure.

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Nerve Surgery Brings Relief to Angina Pectoris Sufferers.

Surgical removal of sympathetic nerve tissue near the heart has brought relief to patients suffering from chest pains due to an abnormal state of the heart arteries. This condition—known as angina pectoris—produces pain in the chest over the upper part of the heart radiating in various directions but mainly into the left neck and down the left arm. It is common in persons with high blood pressure. According to a report by Drs. James A. Evans, James L. Poppen and James B. Tobias in December 23, *J.A.M.A.*, sympathectomy—as the operation is called—was performed on 10 high blood pressure patients suffering with severe attacks of disabling angina pectoris with "satisfactory results" in all cases. Complete relief was found in half of the patients, of whom three reported throat constriction sensations, a residual symptom in this operation. The remaining five patients experienced "satisfactory results" rather than complete relief. Results were studied over a period of from three months to three years.

The doctors are associated with the Lahey Clinic, Boston. Dr. Evans is with the Department of Internal Medicine, Dr. Poppen is with the Department of Neurosurgery and Dr. Tobias is a fellow in internal medicine.

Cytological Examination Reveals Early Uterine Cancers.

Microscopic studies of smears taken directly from the uterine cervix and cervical canal are extremely useful in detecting early uterine cancer in women, according to two Cleveland physicians. Drs. James W. Reagan and R. T. Schmidt, University Hospitals of Cleveland, report on the effectiveness of this so-called cytological technic in the January 13 *J.A.M.A.*

In a controlled series of tests, specimens taken from 108 proved uterine cancer patients were examined by this technic. Affirmative results were reported by Drs. Reagan and Schmidt in 103 of the 108 proved cases.

The accuracy and effectiveness of this method require a highly skilled microscopist trained in cell research. In addition much care must be taken in obtaining the specimen and in preparing the tissue spreads (or smears) for examination.

The report said: "The cytological technic is useful in the identification of uterine neoplasms [tumors] and may reveal the presence of lesions unrecognized with the use of endometrial curettage [uterine scrapings] or cervical biopsy [surgical removal of a sample piece of tissue for testing]."

CLINICOPATHOLOGICAL REPORTS

From the Case Records of the Medical College of Virginia and the University of Virginia Hospitals

Harry Walker, M.D., *Editor*
William Kay, M.D., *Associate Editor*

Case No.: B-72476

The patient, a 27 year old colored female, was in good health until seven days before admission, when she complained of fever and abdominal pain and vomited several times. These symptoms then subsided for two days but five days before admission she again began to complain, this time of a pain "from her chest to her legs" and seemed to have some difficulty in climbing stairs. Her local physician noted at this time that her lower abdomen was somewhat swollen and that she had some fever. Pain, fever and anorexia persisted and two days later the lower abdomen enlarged further. An enema was given with good return, but with no relief of symptoms. Three days later, when the lower abdomen had become still larger, the patient was referred to the hospital. There had been no further vomiting.

She had had mild nocturia during the present illness, but the systems review was otherwise negative. Menses had been regular and the last menstrual period had begun five days before the onset of the present illness. There was a family history of diabetes and three siblings were mentally deficient.

Physical Examination: Temperature 102, pulse 144, respiration 26, blood pressure 140/90. The patient appeared to be in moderate discomfort, was of low mentality and cooperated poorly. The skin was hot and dry. There was a hard, non-movable, exquisitely tender, cantaloupe-sized mass in the lower mid-abdomen slightly to the right of the midline. Expansile pulsation was thought to be present by two examiners. On pelvic examination the cervix was soft and there was a bloody mucous plug in the cervical os. The fornices were clear. The abdominal mass could not be felt from below either by rectal or pelvic examination and rectal examination was negative. The remainder of the physical examination was essentially negative.

Laboratory Data: Urine was amber, acid, sp. gr. 1.021, trace of acetone, negative sugar and albumin, 0-2 white blood cells and 0-2 red blood cells. Red blood count 2,780,000, hemoglobin 7.6 grams, white blood count 15,050, 82 polys., 1 eos., 15 lymphs., 2 monos. Flocculation was negative. Sugar 106 mgm. per cent, NPN 26 mgm. per cent. Serum chlorides under oil 538 mgm. per cent (91 meq/L.).

Consultations were obtained from the Urological, Medical, and Obstetrical Services. Cystoscopic examination revealed only a light stricture of the urethra. A retrograde pyelogram showed normal kidney function with a suggestion of extrinsic pressure on the right lower ureter. A barium enema was negative. Specimens of urine from the kidneys were negative microscopically but culture from the right kidney was positive for pseudomonas aeruginosa.

The patient ran a low-grade fever. The acute tenderness over the mass largely disappeared, but the mass still persisted in the abdomen; however, it did not appear to enlarge further. Penicillin, 50,000 units q 3 h, was administered from time of admission without any appreciable effect on the fever. In addition the patient received several whole blood transfusions and intravenous glucose, saline, and vitamin supplements. On the 7th hospital day an exploratory laparotomy was performed.

Discussion by Dr. W. C. Winn*.

As a rule, when one is not able to make a diagnosis of such a case, there is a tendency for him to feel that he has been swindled and necessary information has been withheld. There are many things that are incomplete in the protocol, but I am convinced that I have been given all of the information that is on the chart. This again emphasized the importance of securing and recording complete information on all patients, something that we are all negligent in at times. We must also remember that this patient is described as being "feeble minded" and we cannot expect too much from the history.

I believe that the most likely diagnosis for this case is ectopic pregnancy. I would like to go through the protocol and give my reasons for this diagnosis and to discuss the differential diagnosis later.

*Associate Professor of Obstetrics, Medical College of Virginia, Richmond.

The history indicated that her abdominal pain was generalized. The pain was associated with fever and vomiting, but later on the vomiting stopped. The abdominal distention could easily be explained by the presence of blood in the peritoneal cavity causing peritoneal irritation.

Her menstrual history is not very specific. It is stated that her menses had been regular and the last menstrual periods started 5 days prior to onset of present illness, but it did not state whether that was the expected time for the menses. It would be helpful to have more detailed information about the amount and character of the flow to determine whether it was a menstrual period or vaginal bleeding. In a series of 265 cases of ectopic pregnancy studied recently at the Medical College of Virginia Hospital, 48 per cent gave no history of amenorrhea. The periods may have been delayed or abnormal in some way, but 48 per cent had not actually missed a period. There was no history of whether or not she had had previous pregnancies. A history of sterility is obtained in a large number of patients with ectopic pregnancy.

Her temperature, recorded on admission as 102° F., could be partly explained on the basis of dehydration. It is unusual for ectopic pregnancy to be associated with a very high fever. It will be noted that the subsequent course revealed that the patient's temperature returned to a low grade fever. In the series of 265 ectopic pregnancies referred to above, 96 per cent had a temperature below 101° F. on admission, none above 103° F. on admission, and all of the admission temperatures returned fairly rapidly to a lower level.

Physical examination noted an exquisitely tender mass in the mid lower abdomen. The presence of extreme tenderness, in the absence of a high fever, is one of the most reliable findings in ectopic pregnancy and is thought to be due to peritoneal irritation. The record of the pelvic findings is very incomplete. It would be very helpful to know whether or not there was tenderness in the pelvis, whether there was pain when the cervix was manipulated, a common finding in ectopic pregnancy, and whether or not the uterus was palpated. There was no mention of the size or the position of the uterus if it was palpated. Very often, however, with the presence of severe pelvic tenderness and abdominal distention, it is almost impossible to outline the uterus or pelvic masses and it is entirely plausible that the uterus was not palpated.

The laboratory studies revealed essentially that the patient was dehydrated, acidotic and showed evidence of excessive blood loss. There was no note of hormone pregnancy tests having been done. Such tests, in my opinion, are absolutely worthless in the diagnosis of ectopic pregnancy. If the test is positive, there is still the question of whether the pregnancy is intra- or extra-uterine. If the test is negative, the presence of a nonviable ectopic pregnancy, which might still cause excessive internal bleeding, is still not ruled out.

X-rays of the urinary tract and barium enema were essentially negative.

Subsequent course after admission to the hospital revealed that the acute tenderness over the lower abdomen subsided but she continued to run a low grade fever, the fever was not affected by penicillin, and the mass persisted. All of these findings are compatible with hematocele, associated with ruptured ectopic pregnancy. It is entirely possible that she has an ovarian cyst with rupture and hemorrhage.

A patient was operated on in the Medical College Hospital in recent months because of a ruptured ovarian cyst with excessive internal hemorrhage and shock, giving a picture of ectopic pregnancy with acute blood loss. Ectopic pregnancy is more common, in our experience, during the childbearing age, than is ruptured ovarian cyst with hemorrhage.

It is possible that such a picture as we have here could be caused by endometriosis with rupture of a chocolate cyst, but I would not favor such a diagnosis for two reasons. First, rupture of a chocolate cyst from endometriosis would cause peritoneal irritation but would very rarely, if ever, cause such extensive blood loss. Second, endometriosis is very uncommon in the negro race.

One must not overlook the possibility of this patient having a mass from pelvic inflammatory disease or degenerating fibroid, associated with sickle-cell anemia. We have been more aware in recent years of the importance of looking for sickle-cell anemia in all negro patients with a hemoglobin of 10 grams or less.

Although my first choice is ectopic pregnancy and my second choice ovarian cyst with rupture and hemorrhage, operation was indicated and should have been done when it was done. In either case

she had a mass which persisted and should have been removed. Since the temperature had returned to low grade fever, operation would not have been too hazardous with the help of antibiotics available today, even if pelvic inflammatory disease had been found. It was important that her blood loss was replaced in large part with transfusions before she was operated on.

Hospital Diagnosis: Retroperitoneal mass, type undetermined.

Dr. Winn's Diagnosis: Ruptured ectopic pregnancy.

Dr. K. Van Slyke*.

Because of the persistence of the abdominal mass, the patient was explored on the seventh hospital day. On opening the peritoneal cavity, it was found that the lower peritoneal cavity was filled with a large cyst measuring about ten to twelve inches in diameter and filled with old blood clots. The cyst was intimately adherent to numerous loops of small bowel and to the sigmoid. After freeing up the mass by blunt dissection, it was found to be a large hemorrhagic left ovarian cyst which had twisted 360 degrees on its pedicle. There was no visible left ovary. A small normal uterus and a normal right ovary were felt. The cyst was removed and an appendectomy was also performed. The patient withstood the procedure well, and her subsequent postoperative course was uneventful. She was discharged eight days following her operation.

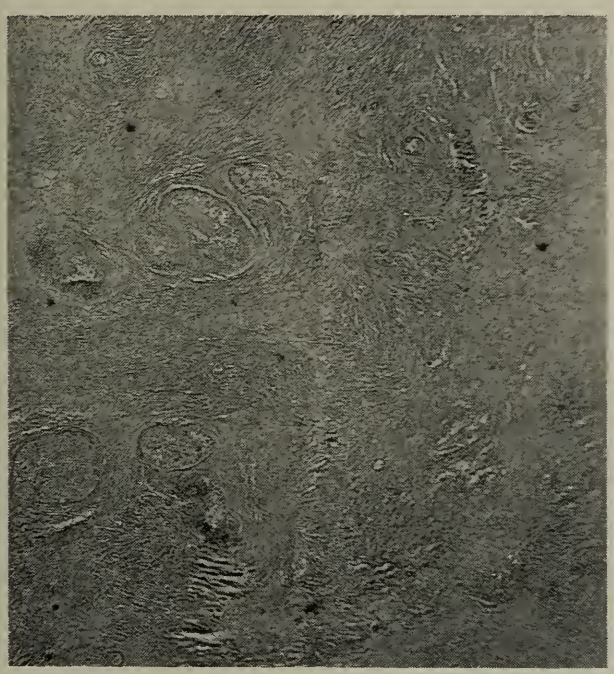

Fig. I

Fig. II

Pathological Report: Dr. Philip Sahyoun*.

The specimen received in surgical pathology consisted of a large cystic mass measuring 16 centimeters in diameter and weighing 1,250 grams. It was filled with old blood clots.

The first section (Fig. I) is taken from the ovary. The normal ovarian architecture is destroyed and we see nothing but engorged vessels, edema and hemorrhage. The next section (Fig. II) is taken from the fallopian tube and shows destruction of the villi with edema, hemorrhage and necrosis with inflammatory exudate in the tube. The appendix showed mild edema and congestion with polymorphonuclear infiltration of the serosa.

Pathologic Diagnosis: Strangulated ovarian cyst, left.

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PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Disease Control of the State Department of Health for January 1951, as compared with the same month in 1950, is as follows:

	January 1951	January 1950
Typhoid and paratyphoid	10	6
Diarrhea and Dysentery	265	393
Measles	543	123
Scarlet fever	150	133
Diphtheria	14	23
Poliomyelitis	8	6
Meningitis (Epidemic)	14	9
Brucellosis	9	2
Rocky Mountain spotted fever	0	0
Tularemia	11	9

A VIRGINIA HISTORIAN—FORMER HEALTH EDUCATOR

In reviewing statistics on communicable disease incidence in Virginia in former years we came across the Annual Report of the Commissioner of Health, Dr. Ennion G. Williams, for the year ending December 31, 1910. Dr. Williams was the first Commissioner of Health in Virginia, holding the office from 1908 until his death in 1931. He was a pioneer in Public Health, both in Virginia and the United States, and was so recognized. Public Health in Virginia today rests upon the solid foundation laid by the genius of its first Commissioner. Indeed, it may be said of him, as was said of Thomas Jefferson and the University of Virginia, that the institution he created is his "lengthened shadow".

In his 1910 report Dr. Williams comments that few advances made in the course of public health during that year have been more encouraging than that which has followed the educational campaign. In this connection he says "The department is to be congratulated on being able to retain the present director of our Bureau of Education and Publicity (Dr. Douglas S. Freeman). His energy, enthusiasm and ability, together with his practical experience in newspaper work, make him exceptionally well fitted for his most important work."

Turning to Dr. Freeman's report, we find the following observations under the title: THE NEED OF POPULAR EDUCATION.

"One of the fundamental principles upon which this department has rested, has been that the solution of the problems of public health depends upon the education of the people. Particular epidemics may be eradicated, isolated communities may be rid of special diseases, careful investigation and prompt remedies may correct gross existing evils; but the true betterment of the public health can only come from the enlightenment of the individual. When every family, and every member of every family is sufficiently educated to understand the fundamentals in the prevention and spread of communicable disease; when every child is taught that such diseases are the toll of ignorance and is instructed how to avoid them; and when every government takes it upon itself to carry out the enlightened will of the people, then, and not until then, will the full possibility of preventive medicine be realized.

"Accordingly, during the two years of its operation, this bureau of the department has devoted itself to a repeated discussion of the fundamentals and to a reiteration of the facts regarding the more usual communicable diseases. Line upon line and precept upon precept, we have striven to give the people the truth about typhoid fever, diphtheria, consumption, hookworm disease, scarlet fever, the summer diseases of children and the essentials of good water and the like".

Some of the diseases listed by Dr. Freeman have responded to direct control measures—measures that have been made familiar to the public through widespread education. Smallpox and diphtheria have yielded to vaccination and immunization; typhoid and hookworm have capitulated to improved environmental sanitation, and tuberculosis, which was the leading cause of death in the United States in 1900, dropped to seventh place among the causes of death in Virginia in 1949.

Today we have cancer and diseases of the heart as captains of the men of death. Unchecked by specific control measures, poliomyelitis still takes its toll of crippled hundreds. Research goes on in many fields of preventive medicine and public health. The antibiotics achieve new triumphs as therapeutic agents. In consequence, the field of health education enlarges, but the sound methods used by Dr. Freeman are still effective in getting cooperation from an informed public.

MENTAL HEALTH

Joseph E. Barrett, M.D.,
Commissioner, Department of Mental Hygiene and Hospitals.

Commitment Procedures

At the last session of the General Assembly a number of changes were made in the statutes relating to the mentally ill.

As a result of these changes the terms "mentally ill", and "mentally deficient" are now used throughout the statutes instead of the terms "insane" and "feeble-minded".

To some this may seem an insignificant thing but it certainly places these conditions and their related problems legally in the realm of medical practice rather than in the criminal field. It is true that we must still use some court procedures but this is true only because it becomes necessary at times to deprive a person of his liberty in order to place him under proper treatment.

Previous to these changes it was necessary to adjudicate a person "insane" before commitment to a hospital. This procedure deprived a person of his citizenship which could only be restored by a discharge as recovered or by an order of court.

The new procedure calls for a finding of "mental illness" by two physicians and a trial justice or a judge of Circuit or Corporation Court as the case may be, and that the person should be committed to a proper hospital for treatment. The examinations made by the physicians are to be made in the presence of the judge or justice if practicable. The judge or justice may waive this formality if he sees fit and accept the individual certificate of the two physicians as sufficient.

The present statutes authorize the commitment of persons by any Circuit or Corporation Judge, or by a trial justice instead of justice of the peace as heretofore, except that the judge in counties where no trial justice presides may appoint a justice of the peace to serve under his supervision and at his pleasure and with all the power conferred on trial justices. The authorized forms for carrying out admission procedures are as follows:

1. *Voluntary Admission.*

Section 37-113 of the Virginia Code of 1950 provides that the superintendent of any State hospital may, subject to the rules and regulations established by the State Hospital Board, receive and detain as a patient any suitable person who is a legal resident of the State, and is in the *early* stages of being mentally ill and desirous of submitting himself to treatment, and who voluntarily makes written application therefor, and whose mental condition is such as to render him competent to make the application, or understand it if made for him by another.

The forms for this type of admission are in the hands of the superintendents only, because he must be the person to decide if the patient is in the early stages of mental illness and whether he is competent to make the application. This form of admission may not be used for the admission of drug addicts or alcoholics.

2. *Commitment for observation*

Sections 37-99 through Section 37-102 of the Virginia Code of 1950 provide for commitment for observation on the medical certificate of one physician. This procedure is to be used where there is some question as to the actual mental condition and where it is desirable to have the advantage of observation in a controlled environment before final decision is made. Frequently such persons are unwilling to go to a hospital voluntarily so the action of a judge or justice is required.

After a period of forty-five (45) days the superintendent of the State hospital and one or more physicians of the State hospital staff are to make a formal report to the judge or justice who acted in the first instance, if the patient is found to be mentally ill and in need of further hospital treatment but unwilling or unsuitable to remain as a voluntary patient. Upon receipt of such a report the judge or justice is to complete the necessary forms and have them filed and recorded as in regular commitments.

The necessary forms for this type of commitment are now in the hands of the clerk of the court and may be obtained there. In order to properly fortify this form of commitment it is requested that part II of the regular commitment forms be filled out too. This is a medical history form.

This form of commitment is to be used for the

"mentally ill" only and may not be used to commit drug addicts or inebriates.

3. *General Commitment.*

Sections 37-61 through Section 37-72 of the Code of Virginia of 1950 provide for the regular commitment of (1) the mentally ill; (2) mentally deficient; (3) epileptics; (4) drug addicts and (5) inebriates.

The forms for carrying out each of these procedures have been reprinted on separate colors of paper as follows: For

(1) Mentally ill—pink
(2) Mentally deficient—blue
(3) Epileptics—yellow
(4) Drug addicts—tan
(5) Inebriates—canary

This was done in an effort to clarify some of the confusion which existed in the past when a multiple purpose form was used and permission was made to strike out those parts which were not applicable. Too frequently there was failure to strike out any of the terms in either the medical certificate or the order of commitment, so that at the hospital, except from their own observation, it was impossible to determine for what condition the commitment was made. There is some question as to the legality of such a commitment for it is quite obvious that a person should not be committed for all the conditions set forth in such a multiple form.

The new forms are now in the hands of the clerks of court in each county and city and can be procured there.

The regular commitment forms are in two parts, viz., Part I and Part II. Part I consists of:

(1) The Petition. This may be filled out by any respectable citizen but whenever possible it is preferable to have it signed by a relative.

(2) A Warrant. This portion, according to statutes, must be filled out but is not often necessary.

(3) The Medical Certificate. This is a sworn statement by two licensed physicians that they have personally examined the said person and as a result of said examination and information given them by others, they are of the opinion that the said person is (1) mentally ill, (2) mentally deficient, (3) epileptic, (4) a drug addict, or (5) an inebriate, as the case may be. Because of either of these conditions the said person may be in need of care and treatment in a hospital, either a State hospital or a private licensed hospital and they so recommend that the said person be committed for that purpose.

Section 37-63 states that the physicians shall make their examinations in the presence of the judge or justice, if practicable. This certainly implies that the judge or justice may accept the certificate of the two physicians as sufficient ground for issuing the order of commitment, and no doubt this should be done in most instances because of the mental trauma resulting from a formal hearing.

(4) The Order of Commitment. This is the final action taken by the judge or justice and authorizes the superintendent of a State hospital or a licensed private hospital to receive the patient immediately. Section 37-81 prohibits the detaining of committed mental patients in any jail. Section 37-132.1 says that, "Any commitment of a person under the provisions of this title to a hospital, colony, Veterans Administration facility or any private hospital or sanitarium or to any person giving bond under the preceding Section shall be null and void if such committed person is not actually admitted to the hospital, colony, or Veterans Administration facility within thirty days of the decree". This makes the commitment of a person to a mental hospital a matter of necessity and not one of convenience.

Each of the State hospitals for the mentally ill will receive a patient so committed at any time, day or night. It will be necessary to make prior arrangements when commitment to a private licensed hospital is under consideration.

Commitment of mental defectives and epileptics to the two State colonies at Lynchburg and Petersburg cannot be so liberalized because of the present overcrowded conditions and the slow rate of discharge. It will, therefore, continue to be necessary to make prior arrangements before taking a patient to either of these institutions.

Part II. This portion of the commitment papers has been revised somewhat. It is entitled Interrogatory and History and Physician's Examination. In its present form this is largely a list of items to be checked. Suggestions for improving it will be welcomed.

Section 37-103 through Section 37-112 provides for the temporary admission of persons who are mentally ill, on the certificate of two physicians without the action of a judge or justice. This form of admis-

sion is not applicable to inebriates or drug addicts. Neither can it be used for mental defectives nor epileptics. The length of time a patient can be held in a State hospital under such a certificate is forty-five (45) days. The necessary forms for using this type of admission have been prepared and can be secured by writing to Joseph E. Barrett, M.D., Commissioner, Department of Mental Hygiene and Hospitals, 9 North 12th Street, Richmond, Virginia. The necessary forms for making this statute applicable were never previously prepared, but it is highly probable that the medical profession will want to make wider use of it now that the forms are available. After the patient is admitted the hospital will then make the necessary contacts with the judge or justice.

The balance of the changes made in the statutes by the General Assembly were of an administrative nature and do not warrant discussion here.

If these efforts to explain the commitment laws and the changes recently made require further clarifying the Department of Mental Hygiene and Hospitals will be glad to help.

BOOK ANNOUNCEMENTS

Physician to the World. The Life of General William C. Gorgas. By JOHN M. GIBSON. Duke University Press, Durham, N. C. 1950. ix-315 pages. Illustrated. Cloth. Price $4.50.

This well told tale of a very great man is well worth reading by both doctors and laymen, for General Gorgas was truly a world figure. It is told in more detail than any previous biography of the conqueror of yellow fever. This dread disease played an important role throughout Gorgas' life. An epidemic brought his parents together at Mount Vernon Arsenal near Mobile, Alabama. Dr. Josiah Nott, one of the early advocates of the mosquito theory of the transmission of the disease officiated at Gorgas' birth. The first encounter with the disease came when Gorgas was a freshman at the preparatory department of the University of the South. New Orleans was having a severe epidemic and Gorgas and three fellow students answered the call for volunteer helpers. Two of the four died of the disease. Again, when he was a student at the Bellevue Medical College he answered a call of a strickened city, Memphis, Tennessee. He and another medical student and a corps of nurses were turned back at the city limits because they were nonimmune. His next contact with the disease occurred in 1882. He had graduated in medicine and had joined the Army and was stationed at Fort Brown. Being a nonimmune he had orders not to enter the yellow fever wards. He was caught doing an autopsy upon a yellow fever victim. This changed Lieutenant Gorgas' status in the hospital. When Miss Marie Doughty, the Colonel's sister-in-law, was taken sick, he was called upon to treat her. Later, he himself caught the disease. During their convalescence the young people saw a lot of each other, and later were married.

It was not long before Gorgas became recognized in the Army as an expert in yellow fever and it was natural that he should have been sent as sanitary officer to Havana when the U. S. Army took over the management of that city in 1898. He therefore had a box seat at the performance when the Walter Reed Commission settled, for all time, the question of the mosquito transmission of yellow fever.

In 1900 when yellow fever began to be a serious problem in the U. S. Army stationed in Cuba, Surgeon General Sternberg appointed a commission of Army officers to find the cause of the disease. The Commission consisted of Drs. Walter Reed, James Carroll, Jesse W. Lazear, and Aristides Agramonte. Dr. Carlos Finlay, an Havana doctor, had already proven to his own satisfaction that the disease was carried by the Stegomyia fasciata, as the Aedes aegypti was then called, but was unable to convince others. Dr. Henry R. Carter, who had supplied an important link in the mosquito transmission theory in showing that from 10 to 14 days must elapse before a house in which yellow fever appears, becomes dangerous, was acting as Havana's quarantine officer. Thus all the major actors in the great drama were in Havana in 1900. Only Sanarelli, the Italian, who was awarded a cash prize for proving that the Bacillus icteroides was the cause of yellow fever, was absent. Sanarelli's bacillus was quickly disposed of. To test the mosquito theory it was necessary to resort to experiments upon human beings. The Commission first started with themselves. Agra-

monte was an immune. Carroll and Lazear were exposed to mosquitoes furnished by Carlos Finlay. Carroll developed a severe case of the disease but fortunately recovered. Lazear escaped infection but later was bitten by a mosquito while working on the yellow fever wards, and developed a fatal case. The Commission now advertised for volunteers. It offered the best medical care should the volunteer develop the disease, immunity certificate after recovery and $250. Only recent arrivals from countries where yellow fever was not endemic were eligible. This narrowed the field to Spanish emigrants and U. S. soldiers. There was a rush of Spanish volunteers. When the U. S. soldiers woke up to the fact that they were passing up a good thing, since they would be exposed to the disease anyway sooner or later, they scoured the country side for bones, any kind of bones, placed them in an old kiln near the Reed headquarters and spread the rumor that the bones were all that was left of the men who had already participated in the Reed experiments. The enlisted men from then on had the field to themselves. Not all the Americans accepted the money, however. John R. Kissinger and John J. Moran refused to accept a penny.

The Reed Commission produced 22 cases experimentally; 14 by infected mosquitoes, six by the injection of blood, two by the injection of filtered blood serum, thus proving the existence of a filtrable virus, while seven enlisted men disproved the fomites theory by sleeping in infected bedding and clothes. The Commission proved beyond any doubt that yellow fever was spread by the Stegomyia fasciata and in no other way. Gorgas now went to war with the mosquito and in a matter of months Havana was free from the disease for the first time in at least 139 years; and it has remained free ever since.

This brilliant achievement was repeated in Panama. Here Gorgas had to contend with a more difficult terrain as well as a bureaucratic control. At one time he came very nearly being replaced by an osteopathic physician. Those interested in the government control of medicine should read these chapters particularly. That Gorgas was a great sanitarian is abundantly shown by the way he cleared up pneumonia among the miner workers of South Africa, and how as Surgeon-General during World War I he built up a medical department that for the first time in history prevented disease from being the most important factor in military mortality. At the age of 64 Gorgas was retired from the Army. He devoted the remaining two years surveying the yellow fever situation in the world for the Rockefeller Foundation. He made several trips to South America to investigate the situation in the Andes, and was on his way to central Africa when he was taken ill in London. The British Government granted him every medical care and upon his death a military funeral in St. Paul's Cathedral. His body was brought back to this country on the Army transport Pocahontas and he was buried with full military honors in Arlington.

A fascinating portion of the book is the epilogue which tells of the development of yellow fever prophylaxis after Gorgas' death. The discovery that the disease could be induced in monkeys and mice, and that the virus be grown in chick embryos, and a laboratory test for the disease. These discoveries by workers of the Rockefeller Foundation resulted in the discovery of a new form of the disease called jungle yellow fever, and in the development of a satisfactory vaccine against the disease.

M. P. R.

Aetios of Amida. The Gynaecology and Obstetrics of the VIth Century, A.D. Translated from the Latin Edition of Cornarius, 1542, and Fully Annotated. By JAMES V. RICCI, A.B., M.D., Clinical Professor of Gynaecology and Obstetrics, New York Medical College; Director of Gynaecology, City Hospital, New York; etc. Philadelphia, The Blakiston Company. 1950. xiii-215 pages. Cloth.

Aetius is the most important medical author of the VIth century. He compiled all medical knowledge of the time. In the introduction of Dr. Ricci's translation, Prof. Castiglioni places this obscure period between the closing of the school of Athens and the opening of the school of Monte Cassino and contemporaneous with the school of Gondishapur, where Arabian medicine had its origin. Dr. Ricci gives a bibliographical account of book XVI (that of the Tetrabiblon that has to do with gynecology and obstetrics) as well as a translation and an index of vegetable, animal and mineral substances recommended in the text. It is indeed fortunate that the English translator is a teacher of gynecology and obstetrics, as well as a medical historian of note. Humoral gynecology and the therapy that went along with it is obscure at best. Only one with a good technical as well as an historical background can do it justice.

M. P. R.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—Mrs. C. M. McCoy, Norfolk
President-Elect—Mrs. Herman W. Farber, Petersburg
Recording Sec'y—Mrs. E. Benjamin Sheppard, Richmond
Corresponding Sec'y—Mrs. Lemuel Mayo, Portsmouth
Treasurer—Mrs. Kalford W. Howard, Portsmouth

Auxiliary News.

Norfolk County

We, as doctor's wives, have always been aware of the important part that nurses in the hospitals play in helping our husbands care for their patients. We have also been cognizant of the fact that good nursing care plays a vital role in the recovery of hospital patients. We felt that, even though the doctors received high praise from their patients for their recovery, the part the nursing care played in their recovery was unjustly minimized.

Hence, the Auxiliary to the Norfolk County Medical Society, in an attempt to express the appreciation of all doctor's wives to all student nurses in Tidewater, gave a play and tea on December 15, 1950. This was held in the auditorium of DePaul Hospital and all student nurses from DePaul, Norfolk General, Maryview and King's Daughters (Portsmouth) hospitals were invited. A car-convoy was organized and all the nurses were picked up at the hospital by an Auxiliary member and then returned to their hospital by the same member. About two hundred and fifty nurses attended the party.

The play "Consolation" was presented by five members of the Auxiliary and depicted the life of a neurotic patient in the hospital. It was a delightful and humorous play which was thoroughly enjoyed by all those present. After the play, the members served tea, sandwiches and cakes, which each had made in her home.

We sincerely feel that this move was inspiring to all present for it showed to the nurses that the Auxiliary had, and should always have, a close feeling of cooperation with the nursing profession which is so essential to the success of their husbands' work.

Northampton—Accomac Counties

The Auxiliary to these County Societies held its first meeting of the New Year at the home of Mrs. S. K. Ames at Cape Charles, with the new president, Mrs. W. T. Green, Jr., presiding. Following a dessert course, Mrs. W. J. Sturgis, Sr., gave a talk on "Time of Great Crisis", with a commentary on world affairs as presented by our statesmen.

Under committee reports, Mrs. J. L. DeCormis, chairman of Legislation, told of the progress which the American Medical Association has made in its fight against socialized medicine. The president spoke of the plaque for the Grace Wilkins Holland Memorial Room in the Northampton-Accomac Hospital, which is to read "The Grace Wilkins Holland Room Furnished as a Memorial by the Medical Auxiliary of Accomac and Northampton Counties", and appointed a chairman for this memorial. Two new members were welcomed. Eighteen members were present.

Catherine R. Trower
(Mrs. Holland)
Chairmen, Press and Publicity

Northern Neck

This Auxiliary, at its Fall meeting in Kilmarnock, elected Mrs. Motley Booker of Lottsburg as president. Other officers elected are: vice-president, Mrs. Edward T. Ames, Montross; recording secretary, Mrs. Paul C. Pearson, Warsaw; corresponding secretary, Mrs. R. E. Booker, Lottsburg; treasurer, Mrs. M. B. Lamberth, Kilmarnock; historian, Mrs. C. Y. Griffith, Machodoc; and parliamentarian, Mrs. M. H. Harris, West Point.

MEDICAL SOCIETY OF VIRGINIA

Minutes of the Council

January 18, 1951

The Council of the Medical Society of Virginia met on January 18, 1951, 3 p.m., at the Richmond Academy of Medicine, Richmond. Those present were Drs. C. Lydon Harrell, President; John T. T. Hundley, President-Elect; George S. Hurt, First Vice-President; M. Pierce Rucker, Editor; L. J. Roper, Commissioner of Health; W. C. Caudill, Past-President; and Councilors, R. B. Bowles, Walter P. Adams, Guy W. Horsley, Wilkins J. Ozlin, Walter A. Porter, Frank A. Farmer, Vincent W. Archer and James P. King. Also present were Drs. Kinloch Nelson, George Cooper, Jr., and Harry J. Warthen, Jr. Mr. L. H. Peterson, Managing Director of the Virginia Division of the American Cancer Society was also present for a short part of the meeting.

In view of the many items to be discussed, the roll and minutes were dispensed with and the President called for the Report of the Department of Clinical and Medical Education, Dr. W. C. Caudill, Chairman. Dr. Caudill presented the work of the committee and their plans for the future, indicating that his committee had accepted the plan of the Virginia Cancer Society, to carry out their educational program under the auspices of the Medical Society of Virginia. Dr. Caudill proposed that the Council endorse his committee's program and underwrite it to the extent of, but not in excess of, $1000. Dr. Kinloch Nelson then outlined the proposed program indicating that this "field education course" would cover more than just cancer; it would also embrace any field the committee felt either qualified or justified in presenting. After considerable discussion, Dr. Archer moved that the plan of cancer instruction, to be operated under the auspices of the Department of Clinical and Medical Education be approved. Dr. Adams amended the motion to the effect that the Medical Society of Virginia underwrite the expenses of this educational experiment not in excess of $1000. This motion was seconded and passed.

In a discussion as to whether or not the Society should continue its subscription to Marjorie Shearon's bulletin for 135 members, it was brought out that of those polled concerning this matter, 25 wanted to continue the subscription, and 50 were opposed to a renewal. Dr. Archer moved that the Society's subscription be discontinued. This motion was seconded and passed.

In connection with the discussion of Dr. Shearon's bulletin, it was suggested that the list of those receiving the above publication be sent to Dr. Joseph Lawrence's office in Washington, to be put on his mailing list for his Bulletin and Capitol Clinic.

As a result of a recent investigation concerning the charter of the Society, Mr. R. C. Duval, Jr., Counsel for The Medical Society, found the word THE to be a part of the title of this organization. The Council so moved that THE be henceforth used in the title. Mr. Johnson was also requested to submit a seal for the Society at the next meeting of the Council.

The matter of misunderstandings about A.M.A. dues was discussed and it seemed to be the sense of Council that the recent article in the A.M.A. Journal (January 6, p. 38) be reprinted and sent to the membership. The Secretary was also instructed to send a letter regarding the collection of dues to all local secretaries immediately, and every three months for the balance of the year.

On motion by Dr. Hundley, it was seconded and passed that members in the Armed Services be exempt from dues. In this connection, Dr. Hundley also moved that the By-Laws be changed to read "permanently or temporarily" in regard to the exemption of ill physicians. This was seconded and passed, to be referred to the Judicial Committee. At the suggestion of Dr. James P. King, and the recommendation of Dr. Vincent W. Archer, Dr. Harrell declared Dr. William E. Brown of Charlottesville an active life member of The Medical Society.

Mr. Johnson indicated that the executive office was sometimes in a quandary as to whether or not the State or the physician should be billed for dues when the physician is an employee of the State. The consensus of Council indicated the physician should be billed.

The Secretary also pointed out the importance of the executive office having a roster of active members of each society. He was authorized to follow Article 3, Section 9 of the By-Laws and request such a list from the local societies.

Regarding the Educational Campaign, Dr. King, Chairman, indicated that he had no definite program and should appreciate any suggestions. In the ensuing discussion it was brought out that perhaps the program should implement Whitaker and Baxter's program on a local level, should tie in with public relations, and should stimulate the sale of Blue Cross and Blue Shield in rural areas.

In a discussion concerning the expense of sending representatives to the Middle Atlantic States Regional Conference, the Council instructed the Secretary to ask A.M.A. to place The Medical Society of Virginia in the Southern group, instead of the Middle Atlantic States group.

Dr. Hundley then offered two amendments to the constitution to the effect that: (1) Officers of the A.M.A. should have the privilege of the House of Delegates, also the past presidents of The Medical Society of Virginia should be extended that courtesy. Dr. Hundley moved that this amendment be adopted and presented to the Judicial Committee. This was seconded and passed. (2) Another Standing Committee be created. He felt that the Publication and Program committee should be made separate committees due to the heavy load on that one committee at this time. He indicated that the Editor of the Journal would still be the chairman of Publications. The motion was to create separate Standing Committees. Dr. Hundley moved that this amendment be adopted and presented to the Judicial Committee. This was seconded and the motion passed.

A letter was read from the Conference of Presidents and Secretaries, indicating the dues for The Medical Society of Virginia would be $50. Dr. Archer moved that this amount be appropriated. This motion was seconded and passed.

In giving a report of the committee meeting of the Advisory Health Services to Defense, Dr. Roper, Chairman, indicated that his committee and the committee on National Emergency Medical Service seemed to be somewhat in conflict as to the functions of each. Dr. Roper asked that during the interim between meetings, some clarification be made as to the functions of the two committees. The Council then approved the President's getting a letter out in that regard.

Dr. Harry J. Warthen, Jr., Chairman of the House Committee, then presented a report of that committee, recommending certain renovations on the interior of the property recently purchased by the Society. These recommendations included estimates of the cost. Dr. Warthen then requested that the Council instruct his committee as to any expense limitations. The Council, upon motion by Dr. Archer, accepted the recommendations in the report of the committee, confirmed the appointment of the committee until the job is completed, and approved the appropriation of the estimated cost by the selling of bonds.

A letter from the Chairman of the Board of Trustees of the Richmond Academy of Medicine was read, which requested that The Medical Society leave the bookcase and cabinets that belong to the Society for the Richmond Academy in return for the damage done to the Academy building. The Council voted to leave these furnishings according to the terms mentioned in Dr. Decker's letter.

The Council then recessed and drove to 1105 West Franklin Street to look over the new property. At the Rotunda Club, in the Jefferson Hotel, Dr. John B. Truslow, the new Dean of the Medical College of Virginia, joined the Council for dinner. Dr. Truslow spoke for a few minutes at the reconvened session of Council on the Federal Aid to Medical Education bill now pending before Congress. A spirited discussion followed in which the pro's and con's of the bill were heard. In view of this bill, the Secretary related the suggestion of Dr. Walter B. Martin and Dr. H. B. Mulholland that Virginia donate $1000 to A.M.A.'s $500,000 fund to support medical education. Dr. Hundley moved that $1000 of the surplus funds of The Medical Society be donated to the A.M.A. fund for the support of medical education. The motion passed.

The discussion on medical education continued, with the thought being expressed that physicians might contribute to the support of their own medical schools, either by contributions solicited from individuals through The Medical Society, or through the medical schools' alumni. The idea was also expressed that if the state or taxpayers, or the school itself is going to bear part of a student's medical education expense, why should not that student repay that part of his expenses after he is in practice.

There followed some discussion of another bill, HR 274 (same as H.R. 9914 of last Congress), which would provide assistance in the development and maintenance of local public health units. It was concluded that too much authority was given the Surgeon-General. Dr. Harrell expressed the thought that the Medical Society should be against such a proposal.

Asking the advice of Council, Mr. Johnson indicated the number and type of complaints and criticisms coming to the Executive office in regard to room reservations at the convention hotel at Virginia Beach. At this point, Dr. Adams, Chairman of Local Arrangements, explained that the convention hotel was smaller than usual, but that his committee was taking care of all delegates who applied by January 1, also exhibitors (only one room to a firm). He brought out the fact that letters had been sent to last year's delegates and to all local secretaries, and notice had been in the Journal concerning the deadline for reservations for delegates and officers. He indicated that unless the requests came directly from individual delegates, the hotel could not be expected to honor them. Dr. Adams also indicated that plans for the banquet are being worked out so that there would be a seat for every ticket sold, and numbered accordingly. He stated that the committee has contracted with the ADD company to handle the exhibits.

Some of the members of Council seemed to feel that the exhibitors should have more consideration regarding reservations, that The Medical Society was in a sense obligated to them; however, it was pointed out that it was a physicians' convention, and the physicians should have priority on the rooms.

Mr. Johnson told the Council about questions that had arisen concerning the eligibility of Negroes for membership in local societies. It was brought out that although some local constitutions might allow Negro membership, the State Constitution still would not admit them to membership, and it was thought that all local constitutions should conform as nearly as possible to the constitution of the State Society. However, it was the sense of the Council that this matter be tabled.

Mr. Johnson told the Council about the many requests that come to the Executive office for membership lists, and asked for advice concerning policy in this regard. Dr. Archer moved that lists be given out of the office only at the discretion of the Executive Secretary. It was the will of Council that such lists be discouraged.

Mr. Johnson then indicated the number of problems that had come up recently concerning the Veterans Affairs Committee. He pointed out that at the last meeting of Council, that body had made the Veterans Affairs Committee a part of the Medical Service Committee. Mr. Johnson asked Council to consider making those two committees separate. Dr. King so moved, it was seconded and passed. Dr. Farmer moved that the former committee of five with Dr. Patrick Drewry as Chairman, be continued. This motion passed and the President appointed the committee.

The report of the House Committee was again brought up, Dr. Harrell indicating that the Chairman of that committee would like an opinion of Council on the conversion of the stoker furnace to oil heat. It was pointed out that an oil burner would in the long run save other expense. It was also pointed out that the committee would probably need more than the estimated amount in the report to take care of unforeseen matters. The Council passed a motion by Dr. Archer that the committee be empowered to buy an oil burner, that funds be appropriated up to $5000, and that a maintenance fund be provided by selling bonds. It was indicated that the purchase of the oil burner would not be included in the $5000.

Dr. Harrell then brought up the matter of expenses at the convention, noting a particular item spent for flowers by the Woman's Auxiliary. After some discussion, on motion, the Council approved that the Chairman of the Local Arrangements be the only authority to approve the purchase of flowers at the State expense for ladies at the State Convention, and that the President of the Woman's Auxiliary be so notified.

Mr. Johnson then brought up the matter of sending a delegate to the Post-Graduate meeting in Chicago, February 10. Council approved the expenditure not exceeding $150 for the expenses of this delegate.

In a discussion of policies and procedure, it was thought that the agenda for Council might be "screened" by the Executive Committee, with copies being sent to each member of Council about a week before the meeting date.

Mr. Johnson asked for suggestions and instructions in this regard, expressing the hope that members of Council might have items for consideration to be placed on the agenda.

As there was no further business, the meeting adjourned.

HENRY S. JOHNSON,
Secretary.

Report of Delegates to the American Medical Association

The interim session of the House of Delegates of the American Medical Association was held in the Statler Hotel in Cleveland December 5-8, 1950. Attendance was excellent, 195 of 198 eligible delegates being seated on the opening day.

Several addresses, notably those of the President and of the publicity agents dealt with the advertising campaign and reported highly satisfactory results. In Congress several bills backed by the medical profession have been enacted into law and not a single bill opposed by AMA has been passed. Literally thousands of unrelated groups, companies and individuals, have indicated their support of the position taken by organized medicine while the outcome of the November elections in which doctors took an active part shows a healthy reaction against socialization.

During the past year certain developments in the field of hospital standardization have caused considerable concern among the profession generally. Heretofore the American College of Surgeons and the Council on Medical Education of the AMA have set up standards and conducted inspections, the former with regard to care of patients and the latter having to do with teaching. Recently the American College of Surgeons has expressed a desire to relinquish at least a part of the task while at the same time the American Hospital Association has indicated that it wishes to enter the field. After conferences among representatives of the AMA, the American College of Surgeons, the American College of Physicians, and the American Hospital Association, it was tentatively agreed that a joint commission on hospital standardization composed of 18 members representing the four organizations be established. After a well attended hearing before a reference committee and thorough discussion, this proposal was approved by the House of Delegates with the recommendation that the study be continued until a satisfactory plan for the standardization of hospitals be achieved.

Following a resolution by a delegate from Oregon, the Board of Trustees recommended that the AMA contribute the sum of half a million dollars from the National Education Campaign Fund for the aid and support of medical schools that are in need. This recommendation was unanimously adopted by the House. It was brought out that this action is consistent with the objectives of the AMA in that the Association has always concerned itself with maintaining standards of medical schools and for many years through its council on Medical Education has expended about a quarter of a million dollars annually to advance Medical teaching. If medical schools are in need of financial assistance, such assistance should come from private sources rather than federal subsidies and it is fitting that the medical profession should take the lead in providing the necessary funds

As has been the case for several years, resolutions having to do with veterans care, particularly veterans with non service connected disabilities, were presented. The reference committee on Insurance and Medical Service to which the resolutions were referred presented the following recommendation which was adopted by the House, "that the Board of Trustees be authorized to permit the Committee on Legislation of the American Medical Association to offer its services to the authorities of the Veterans Administration or to the congress in seeking either administrative or legislative support for the following three principles: (1) the best possible care of all veterans with service connected disabilities in Veterans Administration facilities; (2) the best possible care of veterans with non service connected disabilities who need financial support and (3) veterans with non service connected disabilities who are able to do so should provide their own care." A resolution proposing that a special committee be set up to study and deal with the problem of alcoholism was disapproved but the matter was referred to the present committee on chronic diseases. A proposal to change the name of the section on nervous and mental diseases to the section on neurology and psychiatry was disapproved as was a proposal that the AMA provide for the expenses of delegates from the various sections.

In its report to the House of Delegates, the Board of Trustees requested an expression from the House as to whether or not the clinical sessions are worth while and should be continued. While a considerable difference of opinion developed among the delegates as to whether these meetings justify the work and expense involved the reference committee to which the matter was referred recommended that they be continued and this recommendation was adopted.

Of unusual interest at this meeting was the appearance of a representative of an important labor union. Mr. William L. Hutcheson, General President of the United Brotherhood of Carpenters and Joiners of America, was scheduled to address the House of Delegates, but being prevented from doing so by illness, his address was read by Peter E. Terzick, Editor of the Union's publication, The Carpenter. In it he expressed in forceful and unequivocal language his opposition and that of the union he represents to compulsory health insurance. As labor has heretofore been looked upon as wholeheartedly in favor of government control of medicine, this event was most significant.

The association's gold medal "for exceptional service by a general practitioner" was awarded by the House to Dr. Dean Sherwood Luce of Canton, Mass. Dr. Luce, a graduate of the Harvard Medical School and now nearly 75 years old, has practiced in his present location since 1905. He has been active in his local and state medical organizations and has taken a prominent part in the various health and civic activities of his community.

The next interim session of the House of Delegates will be held in Houston, Texas in December, 1951.

J. M. Hutcheson
H. B. Mulholland
J. M. Emmett

EDITORIAL

Charles Wardell Stiles (1867-1941)

AFTER The War, and "The War" in the South still means the Civil War, the condition of the South was pitiable. To the devastation of invading armies was added the malnutrition and anemia of two widespread chronic diseases, malaria and necatoriasis. The psychological reaction to these three scourges, any one of which was sufficient to overcome a people with less stamina, is interesting. The people of the South were, in a way, proud of the war damage, since it was a measure of the fight they were willing to put up in the defense of their constitutional rights. As to malaria, they put quinine in their coffee and tolerated the malaria, but when it was discovered that they had hookworms, as the Necator americanus was commonly called, they deeply resented it. The man who made this discovery was Charles Wardell Stiles, zoölogist to the Bureau of Animal Industry.

Dr. Stiles was born in Spring Valley, N. Y., May 15, 1867, the son of the Rev. Samuel Martin Stiles. He received his early education at Wesleyan University, Middletown, Conn. (1885-1886). In 1886-87 he studied at the Collége de France; in 1887-89 at the University of Berlin; and in 1889-90 at the University of Leipzig, where he was awarded an A.M. and a Ph.D. degree. In 1891 he worked at the Trieste Zoölogical Station and at the Pasteur Institute and the Collége de France. He was zoölogist in 1891-1902 and consulting zoölogist 1902-1904 to the Bureau of Animal Industry, professor of zoölogy U. S. P. H. S. 1902. He was also professor of medical zoölogy at Georgetown University (1892-1906), and special lecturer, Army Medical School (1894-1902), Johns Hopkins (1897-1937) and the Navy Medical School (1905-1910). He held the rank of Assistant Surgeon General U. S. P. H. S. from 1919 to 1930. He was honorary custodian of the helminthological collections in the United States National Museum from 1893 to 1931 and secretary of the advisory commission of the Smithsonian Table at Naples Zoölogical Station. He was the United States government delegate to the International Zoölogical Congresses in Leiden in 1895, Cambridge in 1898, Berlin in 1901, Berne in 1904, Boston in 1907, Graz in 1910, Monaco in 1913, Budapest in 1927 and Padua in 1930. He was secretary of the International Commission on Zoölogical Nomenclature from 1897 to 1936, and secretary of the International Commission on Medical Zoölogy from 1910 to 1913. In addition, Dr. Stiles was an Associate of the Smithsonian Institute and a member of many American and European Societies. In 1892 he succeeded Joseph Leidy as foreign correspondent of the Société de Biology, France. In 1896 he was elected foreign correspondent of the Académie de Médecine, France, and 1899, corresponding member of the Zoölogical Society of London. He was professor of Zoölogy at Rollins College, Winter Park, Florida, 1931-1938.

Dr. Stiles was the author of many books relating to his specialty and of a key catalogue of the parasites of man and animals, indexed in all the most important languages. Of particular interest to us in this sketch is his report, "The Significance of the Recent American Cases of Hookworm Disease (Uncinariasis or Ancylostomiasis) in Man" which appeared in the Eighteenth Annual Report of the Bureau of Animal Industry (1901).

From the great number of government commissions that he held, one might get the idea that he was a swivel chair scientist. Nothing could be further from the truth. When I was a fourth year medical student in Baltimore, I saw right much of Dr. Stiles.

As it happened I had a case of uncinariasis, as we called it then, with a severe grade of anemia. When he came over from Washington to lecture to us, he would come up on the ward to go over the progress my patient was making. He had already discovered that the American worm differed from the Egyptian nematode, in that it had plates in its mouth instead of hooks. Therefore, the term uncinariasis was not exactly correct when applied to the disease in America.

The disease had been known in the old world for a long time, under a number of different names: ancylostomiasis, ankylostomiasis, brickmaker's anemia, Egyptian chlorosis, miners' anemia, miners' cachexia, Porto Rican anemia, St. Gothard's tunnel disease, tropical chlorosis, tunnel anemia, hookworm disease and tunnel disease. It was considered a rare disease in this country; in 1901, Stiles wrote that only about 35 cases in the United States had been reported. He thought that this was strange since uncinariasis is common in dogs, sheep and cattle in certain parts of the country; showing that conditions were favorable for the development of the congeneric parasite which affects man. The conditions were ripe, and even if the disease did not already exist, it would most certainly be introduced into the South with the increasing contact with the tropics. It is of local interest that one of the early cases was reported by Dr. William B. Gray in the Virginia Medical Semi-Monthly (6:269, 1901), and the case in which the Necator americanus was first found was also in Virginia, a farmer of Westmoreland County.

Before the above prediction was in print, Dr. Stiles had found the disease in every state in the South; furthermore, the cases were not imported as the first reported cases were thought to be, for he found the infestation was by a previously undescribed species which he named Necator americanus. This was found in a case that was reported by Dr. Thomas A. Claytor of Washington, D. C. These two nematodes, Ancylostoma duodenale and Necator americanus are found only in man. They have no other host and therefore must be carried by man. In general, the former is found in the old world and the latter in the new world. Clinically, the disease caused by the American hookworm, as it soon was called, to distinguish it from the old world hookworm which is found in Egypt and Europe, is identical with the older form. However, the geographical distribution is wider than was at first thought. In 1905, Looss found the so-called American hookworm in pigmies in Central Africa and suggested that it was probable that the parasite was brought to the Western Hemisphere with the slave trade. Leiper, the zoölogist of the London School of Tropical medicine, in confirmation of Looss, found the Necator americanus on the Gold Coast and throughout Africa, but strangely enough, not in Egypt. The Negro is relatively immune to the disease but readily becomes a carrier. Leiper also found the Necator americanus throughout India.

Whether or not the Negro brought the hookworm with him from Africa, its presence created a serious health and economic problem at the beginning of the 20th Century. The eradication of the disease is theoretically simple. The worms do not multiply in the body, but they produce an enormous number of eggs which escape in the feces. Under favorable conditions of temperature, moisture and shade, the larvae develop and when they reach the so-called encysted stage, the immature worms leave the feces and migrate to damp soil or surface water. They are then ready for the intestinal tract of man. There is no intermediary host. They gain access to the alimentary tract either by infected food or dirty hands, or indirectly through the skin. As they penetrate the skin they produce an irritation which the country people call the "ground itch." Getting into the blood stream, the worms are filtered out by the capillaries of the lungs, pene-

trate the bronchi, are coughed up or migrate to the throat and are swallowed, and then finally reach their goal, the duodenum. It is this method of infection that makes hookworms such a menace to the barefoot child of the South. The stunting effect of the resulting anemia has long been a reproach to the Southland.

The problem of prevention was theoretically simple but one of great magnitude. It would take a lot of money to carry on a successful anti-hookworm campaign. An hygienic project of such size had seldom been undertaken, and never before by private enterprise. Stiles approached Mr. Andrew Carnegie, who at the time was busily engaged in giving away his millions, but could not interest him sufficiently. Later, Walter Hines Page introduced him to John D. Rockefeller and the outcome of this interview was the establishment of the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease. Stiles was named the scientific secretary of the Commission.

When he started to work instead of being hailed as a benefactor, he was called a visionary. The newspapers made fun of him and he was actually run out of some of the more backward areas of the South. Some Southerners resented the use of the Rockefeller money. In spite of local opposition Stiles was eminently successful. That the South's resentment was shortlived is attested by the fact that the University of North Carolina gave him an honorary LL.D. degree in 1912, and the University College of Medicine of Richmond an honorary M.D. degree in 1913. An interesting aftermath to Stiles' successful eradication of the hookworm in the South was the formation of the International Health Commission of the Rockefeller Foundation. The name was changed to the International Health Board in 1916, but the work of eradicating preventable disease throughout the world in places where it did not seem practicable, has continued along the same pattern established by the Sanitary Commission in 1909-1913.

One wonders what to admire most about this man; his wonderful accomplishment of reclaiming 7,000,000 persons from a disabling and fatal malady, his devotion to duty in the face of unreasonable calumny, or the example he set of a true scientist who is perfectly content to make original discoveries and to serve his fellow man. Many public health authorities consider him to be the father of modern sanitation. He died of myocarditis in the U. S. Marine Hospital, Baltimore, January 24, 1941. *The New York Herald Tribune* said at the time "One of the great medical figures, the principal actor in an extraordinarily moving and dramatic bit of history, passes with the death of Dr. Charles Wardell Stiles. This generation did not know him. It had been years since his name had appeared in the press."

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Routine Cytological Examination of Vaginal Smears in Cancer Prevention

TO discover cancer before it can be seen by the naked eye poses a real problem in diagnosis. Intra-epithelial carcinoma of the cervix may exist for years before it can be seen, even with the aid of the iodine test for altered function of the epithelium. Biopsy, even with tissue taken from four localities of the cervical ring, or a circular strip removed at the junction of the squamous and columnar epithelium, might easily miss a cancer of microscopical size. It is like hunting quail. Today with good dogs you find no trace of the birds, while tomorrow or next week, you easily find several covies. The secret of success is to keep looking. What is said of cancer of the cervix is equally true of cancer of the body of the uterus. You are probably more apt to miss the early cancer of the fundus with a curette than a cervical cancer with a biopsy knife.

As an adjunct to the established methods of diagnosis the study of vaginal smears may prove valuable. The routine vaginal examination without biopsy is inadequate. Routine vaginal examination with biopsy and diagnostic curettage is too elaborate to recommend repeatedly to patients without any symptoms or signs. On the other hand, a cytological examination is scarcely any more than a vaginal examination, and is entirely without danger. Its only drawback is, first, that it requires experience in interpreting the smears; and, second, it may engender a false sense of security. Experience has shown that it carries about a 10 per cent error, equally divided between a false positive and a false negative.

A number of studies of routine cytological examination on a clinic-wide basis have shown that a few unsuspected cancers may be picked up in this way. A few studies have been undertaken on a city-wide basis. In Toledo, Ohio, for instance, a city-wide study of vaginal smears for cancer prevention was begun in 1947. It was sponsored by the local Medical Society and is participated in by all members of the medical profession. The smears are made in the offices of the physicians, and are sent to the pathologist. It is the aim to enroll all women in the program. A central registry is maintained by the County Medical Society from which notices are relayed through her physician's office to the patient, asking her to return at intervals of 6 to 12 months for repeated examinations. These notices are sent at regular intervals throughout the life of the patient. Already they have discovered early cancers in the repeated examinations; cases that were negative in the first few examinations, becoming positive under observation. Such pioneer work should be commended and should by all means be watched.

Careless Writing

SEVERAL months ago a group of soldiers were in their armory practicing with a new recoilless rifle. To everyone's surprise, the gun went off, blew a hole in the side of the building, barely missed a large hospital and knocked down several porches over a mile away. In the investigations that followed it was shown that the covering of the cartridge was marked with figures indicating size, type, etc., and in addition, the word "Dummy". According to the accounts in the newspapers, no one seemed to know to what (or to whom) the word dummy referred.

The purpose of language is to convey meaning. In the case of the written word it should convey the meaning of the writer, accurately. That should be the acid test of all writing. If, in addition, it stimulates the imagination and is musical, it becomes

literature. In newspapers and medical journals, we do not expect literature. In the one, there is not time for the polishing necessary to round out the periods and produce the majestic rhythm of a Milton. In the medical "literature" exactness is the end to be striven for.

In both newspapers and medical writing there is a tendency to vagueness and looseness of expression. Too frequently one sees "temperature" used where fever or elevation of temperature is meant, "pathology" for morbid or pathologic change or "serology" for a blood count and/or a Wassermann test. We often see that the patient was given "supportive treatment". Sometimes we would like to know of just what this consisted but the author gives us no hint. Alphabetical abbreviations are particularly annoying. Sometimes, but not always, these abbreviations are well known to workers in the same branch of science. Specialization is so great and changes are so rapid that dictionaries can not keep up with the newly formed combinations. Recently we have come across some abbreviations that could not be found in the latest dictionaries. In reporting a case, the hospital record is copied verbatim, with the result that parts of the report are unintelligible to readers in another State. The author should be considerate enough of the readers to translate the hospital jargon into plain English. If he has a message he should certainly want it to be understood correctly.

Floral Eponym

Solandra

DANIEL CHARLES SOLANDER (1736-1782)

Solandra is a genus of tropical American, woody, climbing plants of the potato family. The flowers are large, solitary, greenish-white or yellow.

Daniel C. Solander was born in Noorland, Sweden, the son of a clergyman. Early in life he came under the notice of Linnaeus. He graduated in medicine at Upsala. He was popular in London and had much to do with the introduction of the Linnaean system in England.

Solander catalogued the natural history collection of the British Museum. He accompanied Sir Joseph Banks on Cook's voyage in the *Endeavor*. He was a member of the Royal Society and a D.C.L. of Oxford. He died of apoplexy in 1782. The younger Linnaeus named a genus of Atropaceae for him. Two small islands are also named for him. He designed a bookbox portfolio which still goes by his name. He left twenty volumes of descriptions of plants in ms. which are in the British Museum.

PRESIDENT'S MESSAGE

1951 Committees, Medical Society of Virginia.

The following committees have been named to be in charge of the various activities of the Society during the year 1950-51. Numbers after names in Standing Committees indicate number of years to serve, these having been appointed for a definite term in accordance with the By-Laws.

Standing Committees

Publication and Program: M. P. Rucker, M.D. (1), Richmond, *Chairman;* Ennion S. Williams, M.D. (1), Richmond, *Associate Chairman* (appointed by Council); Wyndham B. Blanton, M.D. (2), Richmond; A. B. Hodges, M.D. (3), Norfolk.

Department of Clinical and Medical Education: W. C. Caudill, M.D., Pearisburg, *Chairman;* H. B. Mulholland, M.D., Charlottesville; L. J. Roper, M.D., Richmond; Harry Walker, M.D., Medical College, Richmond; J. R. Beckwith, M.D., Clifton Forge; M. E. Johnston, M.D., Tazewell.

Ethics: M. H. Harris, M.D. (1), West Point, *Chairman;* K. D. Graves, M.D. (2), Roanoke; H. H. Hurt, M.D. (3), Lynchburg.

Grievance: Guy Fisher, M.D. (3), Staunton, *Chairman;* W. C. Caudill, M.D. (5), Pearisburg; M. P. Rucker, M.D. (4), Richmond; W. L. Powell, M.D. (2), Roanoke; H. B. Mulholland, M.D. (1), Charlottesville.

Judicial: J. Morrison Hutcheson, M.D. (3), Richmond, *Chairman;* Hugh H. Trout, Jr., M.D. (2), Roanoke; N. G. Wilson, M.D. (1), Norfolk.

Legislative: J. D. Hagood, M.D. (3), Clover, *Chairman;* W. C. Caudill, M.D. (3), Pearisburg; Charles H. Henderson, M.D. (2), Norton; Dean B. Cole, M.D. (3), Richmond; Carrington Williams, M.D. (1), Richmond; J. Edwin Wood, M.D. (2), Charlottesville; Frank A. Farmer, M.D. (2), Roanoke; George W. Schenck, M.D. (1), Norfolk; M. S. Fitchett, M.D. (3), Norfolk.

Medical Service: John O. Boyd, Jr., M.D. (2), Roanoke, *Chairman;* Russell Buxton, M.D. (2), Newport News; Walter B. Martin, M.D. (2), Norfolk; M. H. Harris, M.D. (1), West Point; Snowden Hall, Jr., M.D. (1), Danville; Harold W. Miller, M.D. (3), Woodstock; H. B. Mulholland, M.D. (3), Charlottesville; James P. Williams, M.D. (3), Richlands; John G. Graziani, M.D. (1), Farmville.

Membership: A. M. Showalter, M.D. (3), Christiansburg, *Chairman;* B. E. Harrell, M.D. (1), Norfolk; J. Franklin Waddill, M.D. (2), Norfolk.

Public Relations: J. M. Emmett, M.D., Clifton Forge, *Chairman;* H. B. Mulholland, M.D., Charlottesville; Benjamin W. Rawles, M.D., Richmond; Andrew F. Giesen, M.D., Radford; George A. Duncan, M.D., Norfolk; John B. Leary, M.D., Arlington.

Scientific Exhibit: Charles H. Peterson, M.D. (1), Roanoke, *Chairman;* Eugene Lowenberg, M.D. (3), Norfolk; V. W. Archer, M.D. (2), Charlottesville.

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Child Welfare: John O. Rydeen, M.D., Norfolk, *Chairman;* McLemore Birdsong, M.D., Charlottesville; Emily Gardner, M.D., Richmond; James B. Stone, M.D., Richmond; T. J. Humphries, M.D., Roanoke; W. W. Waddell, Jr., M.D., Charlottesville; F. Read Hopkins, M.D., Lynchburg; C. C. Powell, M.D., Harrisonburg; C. B. Hughes, M.D., Wytheville.

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Walter Reed Commission: H. A. Tabb, M.D., Gloucester, *Chairman;* Richard B. Bowles, M.D., Mathews; Clarence Porter Jones, Jr., M.D., Newport News.

To Confer with State Board of Nurse Examiners: Russell Buxton, M.D., Newport News, *Chairman;* Frank S. Johns, M.D., Richmond; C. Bruce Morton, II, M.D., Charlottesville; John A. Shackelford, M.D., Martinsville; Richard P. Bell, M.D., Staunton; M. H. Harris, M.D., West Point; James M. Habel, M.D., Suffolk.

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Advisors: L. J. Roper, M.D., J. E. Barrett, M.D., and Col. Richard Copeland.

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Radford; John A. Sims, M.D., Alexandria; Snowden C. Hall, M.D., Danville; Julian Beckwith, M.D., Clifton Forge; Thomas H. Anderson, M.D., Lawrenceville; Landon E. Stubbs, M.D., Newport News; Alexander G. Brown, III, M.D., Richmond; John B. McKee, M.D., Winchester; David Scott, M.D., Lynchburg.

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TO CONFER WITH OLD DOMINION MEDICAL SOCIETY: Vincent W. Archer, M.D., Charlottesville, *Chairman;* J. M. Hutcheson, M.D., Richmond; Walter B. Martin, M.D., Norfolk; James P. Williams, M.D., Richlands; James L. Hamner, M.D., Mannboro; John B. Leary, M.D., Arlington; J. D. Hagood, M.D., Clover.

CONSERVATION OF SIGHT AND PREVENTION OF BLINDNESS: A. A. Burke, M.D., Norfolk, *Chairman;* C. C. Cooley, M.D., Norfolk; Rudolph Thomason, M.D., Richmond; E. G. Gill, M.D., Roanoke; W. W. Gill, M.D., Richmond.

CEREBRAL PALSY: O. Anderson Engh, M.D., Alexandria, *Chairman;* John A. Vann, M.D., Norfolk; Walter O. Klingman, M.D., Charlottesville; Louise F. Galvin, M.D., Richmond; Roy M. Hoover, M.D., Roanoke.

BLUE CROSS AND BLUE SHIELD: William R. Pretlow, M.D., Warrenton, *Chairman;* H. L. Denoon, M.D., Nassawadox; Waverly R. Payne, M.D., Newport News; E. C. Joyner, M.D., Suffolk; George A. Duncan, M.D., Norfolk; Guy W. Horsley, M.D., Richmond; Thomas G. Hardy, M.D., Farmville; W. C. Brann, M.D., South Boston; John T. T. Hundley, M.D., Lynchburg; David S. Garner, M.D., Roanoke; Harold W. Miller, M.D., Woodstock; J. R. McGriff, M.D., Arlington; J. P. Sutherland, M.D., Harman; Russell M. Cox, M.D., Portsmouth.

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LOCAL ARRANGEMENTS: Walter P. Adams, M.D., Norfolk.

PARLIAMENTARIAN: Walter A. Porter, M.D., Hillsville.

EDUCATION CAMPAIGN: James P. King, M.D., Radford, *Chairman.*

C. L. HARRELL, M.D.

SOCIETY PROCEEDINGS

Virginia Board of Medical Examiners.

At the examinations of the Board held November 30, December 1 and 2, 1950, the following applicants were licensed:

On the Basis of Endorsement of Credentials

Dr. Paul G. Albrecht, Charlottesville.
Dr. John W. Barnard, Louisa.
Dr. John Paul Bing, Fries.
Dr. Lewis H. Bosher, Jr., Richmond.
Dr. George Emory Cain, Dante.
Dr. Robert Dils Crooks, Franklin.
Dr. John Francis Crosby, Jr., Washington, D. C.
Dr. Sam Paul Davidson, Gate City.
Dr. Phillip Lafayette Dixon, Jr., Altavista.
Dr. Charles William Docter, Amonate.
Dr. Leslie Rowe Driver, Jr., Bristol, Tenn.-Va.
Dr. Preston M. Dunning, Martinsville.
Dr. Loren Lance Fisher, Clinchco.
Dr. William Everett Gibbons, Harman.
Dr. James Burnett Gilbert, Alexandria.
Dr. James Robert Gish, Bishop.
Dr. Henry Charlton Graybeal, Christiansburg.
Dr. Thomas Anthony Harris, Bethesda, Md.
Dr. John Williams Hooker, Danville.
Dr. Gerard J. Inguagiato, Falls Church.
Dr. Grace Calef Kay, Richmond.
Dr. Saul Kay, Richmond.
Dr. Henry Allen Kinser, Pennington Gap.
Dr. Seymour Jacob Kreshover, Richmond.
Dr. Basilios S. Lambros, Washington, D. C.
Dr. Beverly Jean Loesch, Waynesboro.
Dr. Paul Patrick Maher, Alexandria.
Dr. William Benedict McLaughlin, Pittsburgh, Pa.
Dr. Joseph Jay Miller, Chatham.
Dr. James Lloyd Mims, Spartanburg, S. C.
Dr. Edwin Calhoun Mitchell, Alexandria.
Dr. Christopher Joseph Murphy, Jr., Alexandria.
Dr. Herbert William Park, Fishersville.
Dr. Grady Woodrow Phillips, Falls Church.
Dr. Clifford T. Riddel, Jr., Bridgewater.
Dr. Robert W. Riemer, Richmond.
Dr. Richard M. Rosenberg, Manassas.
Dr. Angel E. Salazar, Herndon.
Dr. James Anthony Smith, Front Royal.
Dr. Alfred John Suraci, Washington, D. C.
Dr. Bertram Fairley Townsend, Newport News.
Dr. Henry Clay Vedder, Arlington.
Dr. Evans H. Wangelin, Camp Lejeune, N. C.
Dr. Davenport White, Washington, D. C.
Dr. James Oliver Willie, Jr. (C), Portsmouth.
Dr. Edward Comstock Wilson, Jr., Washington, D. C.
Dr. Margaret Wong, Alexandria.

By Examination

Dr. Harvey Earl Brown, Jr., Richmond.
Dr. Marjorie Tweedt Brown, Richmond.
Dr. Hugh Pearson Fisher, Jr., Norfolk.
Dr. Warren Collins Gregory, Charlottesville.
Dr. John Alastair Love, South Boston.
Dr. Geoffrey T. Mann, Richmond.
Dr. Stuart Ragland, Jr., Boston, Mass.
Dr. William Marco Sheppe, Jr., Charlottesville.
Dr. Gladys Pietri Sutherland, Santurce, Puerto Rico.
Dr. Frances Edmonds Wood, Williamsburg.

The Danville-Pittsylvania Academy of Medicine

Held its regular monthly meeting on January 12, at which time the new officers presided. Those elected for 1951 are: President, Dr. W. Earl Overcash; vice-presidents, Dr. E. Willard Arnett and Dr. D. Lorton Arey; and secretary-treasurer, Dr. John R. Eggleston. All are of Danville.

Dr. Hamilton Allen, professor of Orthopedics at the University of Virginia, addressed the Academy on the subject of "Cervico- Brachial Pain".

Roanoke Academy of Medicine,

In February, the Academy met at the Hotel Roanoke for dinner, after which the following program was presented by guest speakers:

Psychologic Aspects of the Care of the Child by Dr. Harry Bakwin, Professor of Clinical Pediatrics, New York University.

Present Status of Antibiotic Therapy by Dr. F. Tremaine Billings, Assistant Professor of Medicine, Vanderbilt University, Nashville.

The Alexandria Medical Society

Will sponsor its second annual Northern Virginia Clinical Assembly on Sunday, April 1, 1951, at the Charles Barrett School in Alexandria. The speakers will be:

1. Waldo E. Nelson, M.D., Philadelphia: Obstructive Lesions of the Respiratory Tract of Infants and Children.
2. William Parson, M.D., Charlottesville: Obesity.
3. Charles M. Caravati, M.D., Richmond: Clinical Aspects of Liver Disease.
4. F. Leon Israel, M.D., Philadelphia: Menopause.
5. Charles A. Hufnagel, M.D., Washington: New Horizons in Surgery.
6. Sol Katz, M.D., Washington: Cough—Its Implications.
7. Ephraim T. Lisansky, M.D., Baltimore: Psychosomatic Aspects of Cardiovascular Diseases.

The registration fee of $2.00, which will include luncheon and cocktail party, should be mailed direct to the Alexandria Medical Society, Post Office Box 192, Alexandria, Virginia. All physicians are invited to attend.

NEWS

Hotel Reservations for October Meeting.

The policy of the Cavalier Hotel in reserving rooms for our State Convention (starting Sunday, Oct. 7, 1951) was formulated by the Local Committee on Arrangements, under the guidance of your President. It has been to:

(1) follow the instructions of the House of Delegates and reserve rooms for Delegates who apply for them.

(2) accommodate in the Cavalier as many members of the Society as is possible.

(3) allow only one room reservation to any one exhibiting firm (some applied for three rooms), in the hopes that many of these can be in the Cavalier also, depending on the date of their application letter.

The main overflow hotel is the Gay Manor (European Plan), one block from the Cavalier, on the Beach front. This well-equipped hotel will handle 180 guests. There are also many excellent smaller hotels available.

The Committee believes the new mandatory rule of holding rooms for Delegates for a limited time is of definite value, and that in ensuing years its wider publication to Delegates will allow members who are not Delegates to have their reservations confirmed earlier.

After the Cavalier is filled, they will still make reservations for you elsewhere. Write the Cavalier!

Pharmacists Work with Veterans Administration.

A plan is now in effect between the Virginia Pharmaceutical Association and the Veterans Administration whereby the Veterans Administration will reimburse the pharmacists for drug bills incurred by a Veteran in cases where such an account has been authorized by the Veterans Administration.

Scientific Exhibits.

Dr. Charles H. Peterson, chairman of the Committee on Scientific Exhibits of the Medical Society of Virginia, announces that the Committee will now receive applications for scientific exhibits for the October meeting of the Society at Virginia Beach. The deadline for applications will be June 15th. The executive committee will then choose those to be shown and notify the exhibitors by July 1st. This will be necessary because of the limited space at disposal for scientific exhibits. Applications should be sent to Dr. Eugene L. Lowenberg, 100 Medical Arts Building, Norfolk 10, chairman of the local committee for scientific exhibits.

The Seaboard Medical Association of Virginia and North Carolina

Met at Elizabeth City, North Carolina, December 5, 6 and 7, with headquarters at the Virginia Dare Hotel. Dr. John A. Payne, III, of Sunbury, N.C., presided. Officers elected for 1951 are: President, Dr. R. Bryan Grinnan, Jr., Norfolk; vice-presidents, Dr. Joseph Smith, Greenville, N.C.; Dr. W. Holmes Chapman, Suffolk; Dr. Quinton Cooke, Murfreesboro, N.C.; and Dr. Edward Levy, Norfolk; secretary-treasurer, Dr. L. Everett Sawyer (re-elected), Elizabeth City, N.C.

The Executive Committee is composed of Dr. O. R. Yates, Suffolk; Dr. John Payne, III, Sunbury, N.C.; Dr. Russell Buxton, Newport News; Dr. Zack D. Owens, Elizabeth City, N.C.; and Dr. John C. Tayloe, Washington, N.C.

Dr. F. P. Hunter, Warrenton, N.C.; Dr. J. M. Habel, Suffolk; and Dr. Brock Jones, Norfolk compose the Membership Committee, and Dr. Southgate Leigh, Norfolk; Dr. Chester D. Bradley, Newport News; and Dr. J. G. Ramsey, Washington, N.C., the board of censors.

Dr. W. Holmes Chapman, Suffolk, is to be leader of Medical Debate, and Dr. William Sellers of Norfolk leader of Surgical Debate.

The next meeting of the Association will be at the Cavalier Hotel, Virginia Beach, the time to be named later.

News from Department of Medicine, University of Virginia.

A Conference on the Use of ACTH and Cortisone was held at the University of Virginia, January 19. More than 140 physicians from throughout the state attended the Conference as representatives of their local hospitals or county medical societies. The purpose of the Conference was to better acquaint Virginia physicians with the new compounds and to give them outlines and material so that they in turn may lead such ACTH conferences at their own local societies or hospitals.

The Conference was organized under the direc-

tion of Dr. William Parson, Professor of Internal Medicine at the University. Dr. Charles A. Ragan, Associate Professor of Medicine, College of Physicians and Surgeons, Columbia University, was the guest lecturer. Dr. Henry St. George Tucker, Assistant Professor of Medicine, Medical College of Virginia, was the other visiting guest speaker at the Conference.

A new Department of Microbiology has been established at the University. It will be responsible for instruction and research in infectious diseases and will cover the sciences of bacteriology, virology, mycology, immunology and immunochemistry. Dr. Alto E. Feller, Associate Professor of Preventive Medicine at Western Reserve University, has been appointed Professor of Microbiology and Chairman of the Department. Dr. Feller came to the University in February as Visiting Professor. His new appointment is effective as of July 1.

Dr. Edward R. Cawley, Assistant Professor of Dermatology and Syphilology at the University of Michigan, has been appointed Professor and Chairman of the Department of Dermatology and Syphilology at the University, succeeding Dr. Dudley C. Smith, who died August 30. Dr. Cawley brings with him from Ann Arbor, as Assistant Professor of Dermatology and Syphilology, Dr. Clayton E. Wheeler. Dr. Wheeler succeeds Dr. Robert Thompson, who resigned July 1 to enter practice in Chattanooga, Tenn.

Dr. Herbert W. Park, formerly a Baruch Fellow in Physical Medicine, has been appointed Assistant Professor of physical medicine at the University of Virginia. He will serve as medical director of the Woodrow Wilson Rehabilitation Center and director of physical medicine at the University.

Dr. Richard J. Ackart, assistant director of the Johns Hopkins Hospital, has been appointed Director of the University of Virginia Hospital, effective February 1. He has been associated with Johns Hopkins Hospital during the past three and a half years and succeeds Dr. Carlisle Lentz, who continues his association with the University Hospital in a consultive capacity.

Medical College of Virginia News.

Dr. John B. Truslow, formerly Assistant Dean of Columbia College of Physicians and Surgeons became Dean of the school of medicine January 1. He succeeds Dr. Harvey B. Haag, who resigned in order to give full time to teaching and research in the department of pharmacology of which he has been head for many years.

Dr. Harry Lyons, Professor of Periodontia and Oral Pathology, was made Dean of the school of dentistry January 1, succeeding the late Dr. Harry Bear. Doctor Lyons retired from private practice in Richmond in order to accept the deanship on a full-time basis.

At its Commencement in June the college will confer upon State Senator Lloyd C. Bird, a graduate of its school of pharmacy, the honorary degree of Doctor of Laws. Miss Nora Spencer Hamner, a graduate of its school of nursing, will receive the honorary degree of Master of Science in Nursing. Both have made wide contributions to education and to science in the community and the Commonwealth.

The Forty-Fifth General Hospital, sponsored by the college in World Wars I and II, has been reorganized and becomes an Organized Reserve Training Unit in the Virginia Military District. Colonel John Powell Williams, Professor of Clinical Medicine, and Chief of the Medical Service at McGuire Veterans Hospital, will be in command.

A splendid attendance was noted at the symposium on alcoholism held January 16 and 17. The alcoholic clinic at the college is under a joint program with the Virginia Board of Health.

A portrait of the late Dean Harry Bear of the school of dentistry was presented to the college with appropriate ceremonies on January 27. The portrait is the work of David Silvette of Richmond, and is the gift of friends of the late Dean.

The Postgraduate Course in Diseases of the Chest,

Sponsored by the American College of Chest Physicians, Pennsylvania Chapter and the Laennec Society of Philadelphia, will be presented at the Hotel Warwick, Philadelphia, March 26-30, 1951. This course will emphasize the recent developments in all aspects of the diagnosis and treatment of chest disease, and is open to all physicians; however, the number of registrants will be limited. The tuition fee is $50.00 and applications will be accepted in the order in which they are received. Applications should be sent to the American College of Chest

Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

Dr. Chevalier L. Jackson is Chairman, and Dr. Leon H. Collins, Vice-Chairman of the Philadelphia Postgraduate Course Committee.

The Virginia Chapter, American College of Chest Physicians,

Will meet in the Richmond Academy of Medicine building on April 25.

The scientific program will start at 10:30 A.M., and continue through the afternoon. The program will be of general interest. Visitors are welcome.

Annual Postgraduate Institute.

The Philadelphia County Medical Society will hold its fifteenth Annual Postgraduate Institute at the Bellevue-Stratford Hotel, April 24-27, 1951. The usual variety of current clinical problems will be presented by local medical authorities. A question and answer period will follow each individual lecture and this material will be recorded for distribution to the registrants subsequent to the meeting.

The program is slanted particularly towards the general practitioner. Arrangements are being made to have the meeting accepted by the American Academy of General Practice towards the necessary fifty hours of formal study required of its members. There will be a large number of technical exhibits.

Preliminary programs will be mailed to all interested physicians. The registration fee is Ten Dollars. Further information may be obtained by writing to Thomas M. Durant, M.D., Director, 301 South 21st Street, Philadelphia 3.

Carlos J. Finlay Award

In Havana, Cuba, on January 14, the Carlos J. Finlay Award for distinguished service in the field of medicine and public health was given to Dr. Elmer L. Henderson, Louisville, Kentucky; Dr. George F. Lull, Chicago; Dr. Tom D. Spies, Birmingham, Alabama; Dr. Paul de Kruif, Holland, Michigan; and Mr. Clyde P. Loranz, Birmingham, Alabama.

The formal presentations were made in the Auditorium at the Finlay Institute in the presence of a large number of distinguished Cuban physicians and their wives and friends. Senor Dr. Jose A. Rubio Padilla, Minister of Health of Cuba, presided giving a most appropriate address and presenting the award individually to each of those to whom it had been given. Following the formal presentations in the Auditorium there was a reception in honor of those receiving the award.

1951 Award Contest.

The National Gastroenterological Association announces its Annual Cash Prize Award Contest for 1951. One hundred dollars and a Certificate of Merit will be given for the best unpublished contribution on Gastroenterology or allied subjects. Certificates will also be awarded those physicians whose contributions are deemed worthy. Contestants residing in the United States must be members of the American Medical Association. The winning contribution will be selected by a board of impartial judges and the award is to be made at the annual convention banquet of the Association in September 1951.

All entries for the 1951 prize should be limited to 5,000 words, be typewritten in English, prepared in manuscript form, submitted in five copies accompanied by an entry letter, and must be received not later than 1 June 1951. Entries should be addressed to the National Gastroenterological Association, 1819 Broadway, New York 23, N. Y.

Teaching Seminar in Proctology.

The International Academy of Proctology will present its first teaching seminar on proctologic subjects, including the more recent developments, in the form of a symposium and round-table discussion. The session will be in New York City, April 7th.

Registration for the seminar will be limited in number and open to licensed physicians who are members of the American Medical Association, State or County Medical Associations and graduates of an approved medical school. Admission to the seminar will be by card only. Preference in registration will be given to those affiliated with the International Academy of Proctology.

For registration or further information communicate with Dr. William Lieberman, Chairman, Seminar Committee, International Academy of Proctology, 1819 Broadway. New York 23, N. Y.

The Ophthalmological and Otolarnygological Section of the Richmond Academy of Medicine

Met at the Commonwealth Club on January 9. The following officers were unanimously elected: Dr. Edwin Vaughan, president; Dr. Mason Smith,

president-elect; Dr. Charles N. Romaine, secretary-treasurer.

After the business session, consisting mainly of informal reports on the progress of the Richmond Eye, Ear, Nose and Throat Hospital, Dr. E. M. LaPrade presented an interesting case report on Cholesteatoma. This was followed by motion picture presentation of Corneal Contact Lenses, which had been procured by Dr. L. B. Sheppard for the evening.

The next meeting of the Section will be on March 6, 1951.

Dr. L. J. Roper,

State Health Commissioner of Virginia, was elected president of the State and Provincial Health Authorities of North America at its last meeting.

Annual Spring Congress.

The Gill Memorial Eye, Ear and Throat Hospital will hold its twenty-fourth annual Spring Congress in ophthalmology, otology, rhinoscopy, laryngology, facio-maxillary surgery, bronchoscopy and esophagoscopy in Roanoke, April 2 to 7 inclusive. The faculty will be composed of outstanding speakers in their various specialties. Lectures will be held at the Patrick Henry Hotel, but operations and clinics will be at the hospital. Several social features will be included in the various days.

For information as to admission requirements, address Dr. E. G. Gill, Box 2467, Roanoke, Virginia.

The Southeastern Surgical Congress

Will have its nineteenth annual assembly on April 11-14, inclusive, at Hollywood Beach Hotel, Hollywood, Florida. The Guest speakers include: Drs. Ray M. Bobbitt and W. Hampton St. Clair of West Virginia; Drs. Otto C. Brantigan and Cless Y. Fordyce of Baltimore; Drs. William S. Brockington and Claud W. Perry of South Carolina; Drs. H. Earle Conwell and Paul W. Shannon of Birmingham; Drs. Robert J. Coffey and James W. Watts of Washington; Drs. David B. Corcoran and Linwood D. Keyser of Virginia; Drs. T. C. Davison, Charles L. Prince and Homer S. Swanson of Georgia; Drs. L. C. Feemster and Leslie V. Rush of Mississippi; Drs. Elmer Lee Henderson, C. C. Howard, Herman Mahaffey and Clyde C. Sparks of Kentucky; Drs. Hugh C. Ilgenfritz, H. Reichard Kahle and Marshall L. Michel of Louisiana; Dr. Oswald S. Lowsley of New York City; Drs. John Martin and Michael Mason of Chicago; Dr. A. T. Miller, Jr., of Durham; Dr. Joe M. Parker of Oklahoma City; Drs. R. L. Sanders and N. S. Shofner of Tennessee; Dr. Howard E. Snyder of Kansas; Dr. Paul B. Steele of Pittsburgh; Dr. Ralph M. Stuck of Denver; Dr. Gershom J. Thompson of Rochester, Minnesota; and Drs. Ashbel C. Williams and Frank M. Woods of Florida. Further information about the Assembly may be obtained from Dr. B. T. Beasley, 701 Hurt Building, Atlanta 3, Georgia.

Postgraduate Course in Pittsburgh.

A postgraduate course on Disease Due to Allergic and Immune Mechanisms is to be given in Pittsburgh, April 24-28, under the auspices of the American College of Physicians. The course is intended for those interested in Internal Medicine and Allergy. Detailed information, including the registration fees, may be obtained from the American College of Physicians, 4200 Pine Street, Philadelphia 4, Pa.

Dr. James A. Smith,

Health Officer of Page - Warren - Shenandoah Health District, left on January 19, for a military leave of absence.

Fredericksburg's New Hospital.

Ceremonies dedicating the New Mary Washington Hospital in Fredericksburg were held on Sunday, February 18, and patients were transferred the next day from the old hospital. This is one of the most up-to-date hospitals in the State, and contains more than three times the space available in the old building. Ninety per cent of the surgical, diagnostic, obstetrical, and laboratory equipment is new.

Dr. Hugh H. Trout, Jr.,

Roanoke, presented a paper at the Tri-State Medical Society meeting in Johnson City, Tennessee, in January.

The American Academy of General Practice

Is holding its annual scientific assembly at the Civic Auditorium in San Francisco, March 19-22. A most attractive "faculty" has been selected. There is no registration fee for members of the Academy but $5.00 for non-members. Further information may be obtained from the American Academy of General Practice, 406 West 34th Street, Kansas City 2, Missouri.

Office Space for Rent.

Doctor's or dentist's office available immediately, corner of Harrison and Franklin Streets, Richmond. Call 5-4397. (*Adv.*)

Wanted—

X-ray male technician. Registered. 258-bed general hospital. Salary depending on training and experience. Give full particulars. Write De Paul Hospital, Norfolk 5, Virginia. (*Adv.*)

For Sale—

Doctor's office equipment for general practice, including office desk, chair and desk lamp, one instrument cabinet, one cabinet with sterilizer, large microscope, centrifuge, and suction and pressure pump for tonsillectomy (portable); scales with measuring rod; combination ophthalmoscope and otoscope; numerous surgical instruments, sutures and ligatures, vial cases and glass ware; eye, ear and nasal instruments. Price reasonable. Phone or call Mrs. Elmer R. Moorman, Kilmarnock, Va., 3-2075. (*Adv.*)

For Sale—

Four bed room house, all conveniences, and four room office combination with a fully established practice in a town of over 4,000 shopping population. Only one other physician in town. Full selling price $20,000, including a $10,000 GI loan which may be assumed by the purchaser. Will introduce if sold within 60 days. Write P.O. Box 297, Buchanan, Virginia, or phone Buchanan 3671. (*Adv.*)

For Sale—

Picker Vertical Fluoroscope, Jones Basal Apparatus, Hamilton Examining table, assorted surgical and medical instruments, medical cabinets, office desk and chair. Write Dr. Irving Berlin, 1815 Wickham Avenue, Newport News, Virginia. (*Adv.*)

OBITUARIES

Dr. Julian Potts,

Newport News, died January 16 at the age of 36 years. He was a native of Norfolk and received his M.D. degree from the University of Buffalo Medical School in 1939. Upon completion of his hospital work he had a brief service with the Dupont Rayon Company in Buffalo, after which he returned to Virginia and entered private practice in Newport News. He became a member of the staff of the Elizabeth Buxton Hospital and joined the Warwick County Medical Society. For the past four or five years he had been in failing health. He was a member of the Medical Society of Virginia. He is survived by his wife and two small children.

Dr. William Carlisle Barr,

Washington, D. C., died August 19, 1950. He was forty-four years of age and graduated in medicine from George Washington University, Washington, in 1932. He was a member of the Arlington County Medical Society and of the Medical Society of Virginia.

Dr. Robert Rivers Jones,

Lawrenceville, died January 25, at the age of 88 years. He was a native of Brunswick County and graduated from the Medical College of Virginia in 1889. He retired from active medical practice in 1910. He was one of the oldest Masons in southside Virginia.

Dr. David A. Dunkley,

Well known physician of Roanoke, died September 26, 1950, after a brief illness. He was a native of Stuart and a graduate of the former University College of Medicine, Richmond, in 1910. He practiced in southwestern Virginia for a few years before locating in Roanoke in 1918. He was a member of the Roanoke Academy of Medicine, the Medical Society of Virginia, and was connected with the Shenandoah Hospital.

Dr. Charles Clifford Grove,

Well known Pittsylvania County physician, died January 13 in a Danville hospital, following a heart attack. He was sixty-four years of age and graduated from the Medical College of Virginia in 1910. His wife and a daughter survive him.

Dr. Bernard Lawrence Reams,

Richmond, died January 19 at the age of 78. He studied medicine at the Medical College of Virginia from which he graduated in 1894, and had since been engaged in general practice. Four daughters survive him.

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GUEST EDITORIAL

The Doctor and Civil Defense

ANY hostile attack against this country will be a calculated effort to disrupt production of war materials, to destroy factories, homes and goods, and to produce panic, and will result in a large number of casualties. No one knows in what manner an enemy might strike. It may be by conventional warfare with the usual incendiary or high explosive bomb. It might be with atomic bombs or bacteriological weapons. The nature of the weapon, or weapons, used, will cause wide variation in the job imposed upon health services, and for this reason the Plan for Medical Emergency Services must be broad in scope, and flexible enough to cover any type of emergency.

None of the potential weapons causes illness or injury entirely new or mysterious. The newest chemical weapon is the so-called "nerve gas", with which we are familiar. Biological weapons may be directed against plants and animals as well as man, and may present entirely new diseases against which we would have little or no resistance.

The problem confronting the civilian health services is enormous, and is fundamentally one of medical logistics—of time and resources against a tremendous number of casualties occurring in a short space of time. The terrible picture of wounds, burns, shock and fractures which may occur, should make us realize the importance of complete planning.

Since the big problem confronting Medical Emergency Services is primarily one of disease and injury to man and his environment, its solution, with its demanding services, planning, operations and periodic evaluations, falls upon the branch of medicine known as Public Health. This fact should be recognized and civilian defense planners should designate Public Health physicians and those dealing with Preventive Medicine as their assistants in Medical Emergency Service planning.

As in the preparation of a well-compounded prescription, there are many factors which must be considered in establishing a good overall civilian defense program. We must have fire and police protection, communications and transportation. These must be thoroughly mixed in the vehicle of community responsibility and pride in our liberties and way of living. The active ingredient in this prescription for self-preservation is the doctor and the allied professions.

The mission of the Medical Emergency Services is to prevent death, to reduce disability and to relieve suffering following any major catastrophe. The accomplishment of this mission will be a major contribution to civilian manpower and morale.

Many things have been done in Virginia toward obtaining an adequate and satisfactory civilian defense program, but many more remain to be done. To assist the Chief, Medical Emergency Services in state planning, the Medical Society of Virginia has appointed an Advisory Committee from its ranks, headed by the State Commis-

sioner of Health, and with representatives of the State Dental, Graduate Nurses, Hospital, Pharmaceutical, Veterinary and Mortuary Associations. Three scientists have had a six weeks training course on Atomic Energy and Special Weapons, one instructor has had a course in Radiological Health Training, another has received training in Radiological Water Sanitation. Six nurses have received training in the Nursing Aspects of Atomic Warfare. All of these instructors will be utilized to teach others throughout the State. Red Cross classes in First-Aid and for nurses aides are being organized at local levels. The Guide for Medical Emergency Services has been published and distributed to the local health service physicians.

Among the things left to be done are those requiring the direct assistance of the physicians of the State. They consist of the recruiting and training of First-Aid teams, clearing station personnel, and shock, burn and surgical teams for emergency hospitals. Hospitals must take inventory of how they can best assist the Civil Defense effort by increasing space for emergency beds, staffing emergency hospitals and increasing their stockpile of drugs, instruments, blood substitutes and other equipment. Each medical society, as well as individual physicians should cooperate in establishing blood donor lists, in getting the people in the local area blood typed and tagged, since whole blood, blood derivatives and blood substitutes will be of utmost importance should disaster strike.

Help your state by helping yourself. See your local Chief of Medical Emergency Services now.

W. R. SOUTHWARD, JR., M.D.

NOTE: Dr. Southward is Chief of the Medical Emergency Service of the State Office of Civilian Defense and is Director of Venereal Disease Control of the State Department of Health.

Floral Eponym

Nicotiana

JOHN NICOT SEIGNEUR DE VILLEMAIN (1530-1600)

Nicotiana is a genus of herbaceous annuals and perennials comprising 45 members of the potato family. All are American except one which grows in Australia.

In 1558 Francisco Fernandes brought N. Tabacum to Spain. John Nicot, French Ambassador to Portugal sent seed to Catherine de Medici. At first, almost miraculous healing powers were attributed to the plant. The use of the plant for smoking came through England. Ralf Lane, the first Governor of Virginia, and Sir Francis Drake brought to the notice of Sir Walter Raleigh the habit of smoking tobacco. The use of tobacco is more widely spread than is that of any other narcotic or stimulant.

Signeur de Villemain, famed for introducing tobacco into France, was the author of a dictionary of the French language. He was born at Nimes and died at Paris in 1600.

LUNG RESECTION FOR TUBERCULOSIS

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and
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Tuberculosis is a disseminated disease which often involves multiple organs and seldom if ever is it confined to one lung. The ability of the host to overcome the infection is dependent upon the development of immunity to the organism. This immunobiologic response of the body is not too well understood, but it requires serious consideration in the timing of collapse operations, antibiotic administration and excisional surgery. The treatment of pulmonary tuberculosis requires individualization of cases. Experience leads to the establishment of a general policy of attack, but frequently the results are disappointing and other methods must be instituted for control of the disease. This unpredictable behavior of pulmonary tuberculosis requires, at the time of initial treatment, broad vision as to the possibility of future additional methods of arresting the disease.

Streptomycin offers valuable protection to the patient during major operative procedures. The development of resistant organisms after prolonged administration of the drug requires careful appraisal of its use during the period of conservative collapse measures or bed rest. There are patients with acute tuberculosis where streptomycin or other antibiotics may be life-saving and the drug must not be withheld; however, many patients have received streptomycin over a prolonged period of time without consideration of the need for future major operative procedures. We doubt the wisdom of giving streptomycin to any patient during the initial treatment where there exists a reasonable chance of controlling the disease by some collapse measure or bed rest. The revokable or conservative methods of collapse treatment consist of paralysis of the diaphragm, pneumoperitoneum, intrapleural pneumothorax and extrapleural pneumothorax. Thoracoplasty and lung resection are major operative procedures which sacrifice to varying extents functional healthy pulmonary tissue. Excision of a tuberculous lobe or lung has always been an attractive possibility, but the inherent disseminated characteristics of the disease have offered definite limitations to this method of therapy. Although streptomycin and other antibiotics have broadened the indications and have made excisional therapy safer, the maximum usually accomplished is removal of the major focus of tuberculous toxemia and site of origin of the positive sputum. This accomplishment parallels the results of collapse therapy, for, in the final analysis, the natural body defenses account for cure of the disease.

Tuffier performed the first successful resection of the lung for tuberculosis in 1893[7]. During the next one-half century less than one hundred cases of pulmonary resection for tuberculosis were reported in the literature[2,4]. Moore and Murphey[5] found 616 cases of resection for pulmonary tuberculosis in the American literature up to May, 1948. There was an operative mortality of 15 per cent and spread or exacerbation of tuberculosis occurred in 25 per cent of 456 cases suitable for study. Streptomycin, improved surgical technique, prone position during operation[6] and detailed operative care have shown striking improvements in the immediate and late results[1,3,5]. Reported comparative series of streptomycin and non-streptomycin cases attest the value of this antibiotic in the prevention of operative complications and in making excisional surgery safer[1,5].

Indications for Resection

The indications for pulmonary resection in tuberculosis have a defined and limited application at the present time. Excision of the lung should be restricted to those patients for whom the modern type of thoracoplasty and other collapsing operations have proven unsuccessful or are likely to be ineffective. Our experience is limited to a series of 21 private patients (F.P.C.), and 29 patients from the Thoracic Surgery Service, McGuire Veterans Hospital. The indications for the 50 pulmonary resections were as follows:

1. Failure of Conservative Collapse Measures.—Twenty per cent of our patients were operated upon because of failure of a good anatomical pneumothorax or failure of prolonged pneumoperitoneum or both. Six of the 10 cases had lower lobe cavities while the other 4 had upper lobe tension cavities. Five patients received both pneumoperitoneum and pneumothorax.

2. Thoracoplasty Failures.—The residual cavity following thoracoplasty can usually be attributed to inadequate surgery, endobronchial disease resulting in positive pressure cavities, thick wall cavity, unfavorable location of the cavity and mechanical interference with compression of the diseased area by an overlying thickened pleura or markedly fibrotic lung. In 75 per cent of the thoracoplasty failures

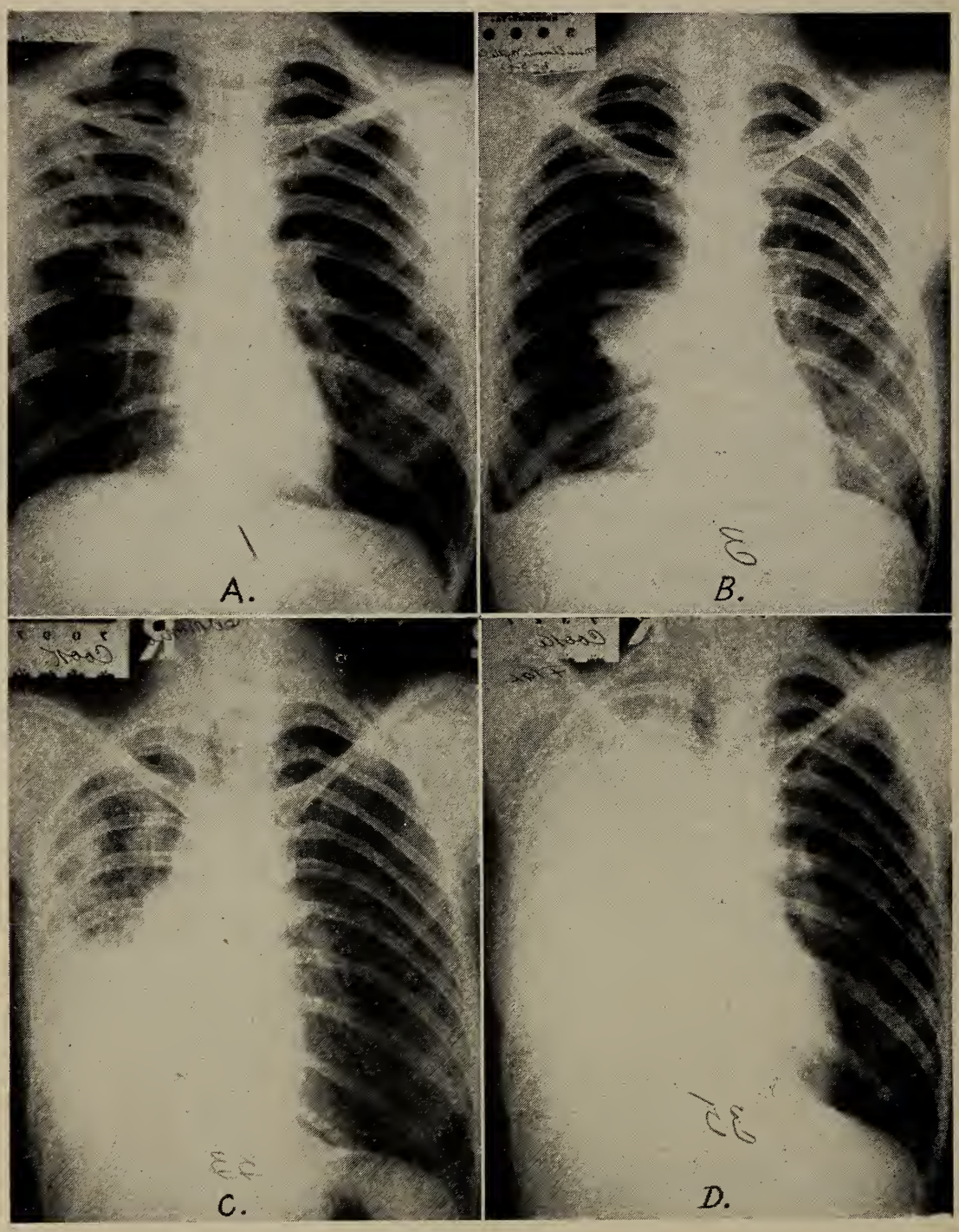

Fig. 1.—a. Moderately advanced pulmonary tuberculosis upper lobe right lung. Desirable indications for pneumothorax. b. Good anatomical pneumothorax of 4 years' duration. Sputum persistently positive. Disease uncontrolled. c. Progression of disease after 8 years of pneumothorax. Right lung destroyed. Cavitation all lobes. Tuberculous empyema, right. d. One year after pneumonectomy and total pleurectomy, right. Sputum negative. Left lung clear.

subjected to pulmonary resection, we found the parietal wall of the cavity to be composed of the thoracic wall itself. We believe this pathologic observation is one of the primary reasons for failure of thoracoplasty. In 4 of these cases the cavity was ruptured during its removal and only with difficulty could the cavity wall be extirpated from the thoracic wall. If a cavity persists after a good anatomical thoracoplasty, cavernostomy or excisional surgery is indicated. Cavernostomy is usually indicated in those patients where there is evidence of pre-existing bilateral disease or the presence of contralateral collapse therapy. We prefer excisional therapy in the thoracoplasty cases where multiple cavities exist and in those patients with a solitary cavity where the respiratory reserve is adequate. Excisional surgery is decisive in its attack while cavernostomy is more inclined to prolong the morbidity in view of the necessity for frequent muscle transplants to close the residual defect.

3. Destroyed Lung.—Four patients had pneumonectomies performed for extensive unilateral disease with cavitation in all the respective lobes (Fig. 1). Two of these patients had had previous thoracoplasties.

4. Elective Resections.—Four patients who were suitable for thoracoplasty were subjected to lobectomy eight or more years ago purely from an investigative standpoint. Although these patients are apparently cured, we do not believe that resection should be performed on any patient where thoracoplasty has a reasonable chance of success.

5. Bronchostenosis.—Cicatricial stenosis of the bronchus with evidence of poor bronchial drainage and often secondary suppurative changes in the lung distal to the stenosis constitutes one of the well established indications for pulmonary resection. If bronchial stenosis exists in the presence of what appears to be a good anatomical pneumothorax, primary pulmonary resection is indicated. If bronchial stenosis yields to bronchial dilatation permitting adequate drainage of the lung or lobe, a thoracoplasty will frequently suffice for closure of the cavity distal to the stenotic area. If the cavity is not closed by thoracoplasty, pulmonary resection is then indicated.

6. Tuberculoma.—Pulmonary resection is indicated where a tuberculoma is associated with a positive sputum, uncontrollable or harassing cough and in certain instances where malignancy of the lung cannot be excluded.

7. Position of the Cavity.—In 3 patients with cavitation in the superior segment of the lower lobe and in one patient with cavitation in the lingula of the upper lobe, pulmonary resection was carried out after preliminary unsuccessful attempts at pneumothorax. The fifth patient was operated upon for a basal cavity after a trial with pneumothorax. These cases might well be classified under failure of conservative methods of treatment. We do not believe that the position of the cavity in itself constitutes a strict indication for primary pulmonary resection.

8. Mistaken Diagnosis.—Six patients were subjected to pulmonary resection because cancer of the lung could not be excluded by preliminary preoperative studies. Although block cavities were considered in 2 patients, this diagnosis was not established until the lobes had been removed.

9. Complicated Bronchiectasis.—The process of healing of tuberculous lesions either with or without collapse therapy is usually accompanied by some bronchiectatic changes in that portion of the lung. Usually the bronchiectasis is asymptomatic and requires no treatment. Lobectomy was carried out in 4 cases in our series for bronchiectasis. In 3 of the cases the sputum was positive while the fourth case was known to have had a positive sputum with active parenchymal disease in the left upper lobe of the lung prior to the onset of recurrent massive hemorrhages from this region. Bronchograms subsequent to a massive hemorrhage revealed bronchiectasis in the left upper lobe. Bronchiectasis subsequent to the healing of pulmonary tuberculosis should be operated upon only when associated with a positive sputum, recurrent pulmonary hemorrhages or secondary inflammatory changes.

10. Secondarily Infected Tuberculous Cavities.—Two patients were subjected to lobectomy for lung abscesses arising in pre-existing tuberculous cavities.

11. Unplanned Resections. — Subsequent to a cavernostomy for a residual cavity following thoracoplasty, it was observed that one of our patients had a pseudo-aneurysm arising from a branch of the pulmonary artery. This situation necessitated a lobectomy in a patient who was not a good risk for excisional therapy. A second unplanned resection was precipitated by inadvertently rupturing a cavity in

the upper lobe of the lung during a revision thoracoplasty and apicolysis.

Selection of Patients and Time of Operation

Although a patient may present desirable and well accepted indications for pulmonary resection, it is extremely important that he be evaluated carefully prior to this method of treatment. A candidate for resection should have the same exacting studies as a patient about to undergo a thoracoplasty. The cardiac and respiratory reserve should be carefully appraised in order to avoid postoperative pulmonary insufficiency or respiratory cripples. Adequate pulmonary function demands not only the inhalation of proper volumes of air but sufficient air must be distributed to the alveolar spaces which are being perfused with blood. We have not resorted to complicated and exacting physiologic studies prior to resection, but we have depended primarily upon a general clinical evaluation of the patient. Response to exercise, vital capacity and ability to tolerate previous collapse procedures have proven to be reliable, but instances will arise where physiologic studies will be of immeasurable value. The respiratory volume may appear to be adequate, as indicated by the vital capacity, but should roentgenograms reveal generalized pre-existing disease of the lungs or evidence of fibrosis and emphysema, it can be assumed that the respiratory function has been crippled. Patients in this category require detailed physiologic studies.

The general condition of the patient should be equal to withstanding a major operative procedure. The presence of serious non-tuberculous disease or grave extrapulmonary tuberculosis contraindicates pulmonary resection.

To a large extent the pathologic type and behavior of parenchymal disease governs not only the indication for resection but the time for performing the operation. Acute progressive or unstable pulmonary tuberculosis in general contraindicates lobectomy or pneumonectomy. It is impossible to determine the stability of a tuberculous lesion without an adequate period of observation. Progressive loss of weight, elevated pulse, daily fever, elevated sedimentation rate and a large sputum volume are clinical indications of activity of the tuberculous lesion. Serial x-rays can usually be relied upon to determine the activity of a specific lesion. If the x-rays show no increase in the activity of the lesion in a patient with clinical evidence of toxicity, a careful study should be made to determine the presence of an extrapulmonary tuberculous focus.

Acute tuberculosis associated with a cavity may respond readily to streptomycin and is inclined to give a false sense of security relative to the time of operation. We have observed reactivation or recrudescence of these lesions which were apparently controlled by streptomycin prior to resection. We believe that contralateral acute tuberculosis should be quiescent or arrested for a period of one year prior to resection. Associated ipsolateral acute disease requires a shorter period of observation providing the lesion is limited to the lobe to be resected. Frequently at operation unsuspected lesions can be palpated in the remaining lobe which were not visible in the preoperative roentgenogram. This again emphasizes the disseminated characteristics of tuberculosis and the importance of a period of prolonged observation before operation. These are the lesions apparently responsible for many of the so-called "spreads" following resection.

Ulcerative tuberculous bronchitis is a contraindication to lobectomy or pneumonectomy if the bronchus must be amputated at the site of ulceration. This lesion not only indicates activity of the disease but it interferes with safe bronchial healing. These patients respond well, as a rule, to streptomycin and should receive a course of this drug prior to a consideration for excisional therapy.

Streptomycin and Immediate Results

This small series of pulmonary resections offered us an opportunity to appraise the value of streptomycin. All cases were operated upon by the same technique. Fifteen of the 17 patients without streptomycin coverage were operated upon prior to discovery of the antibiotic. All patients termed "Streptomycin Resistant" had received 120 grams or more of the drug over a period varying from 120 to 320 days. Prophylactic streptomycin was administered to 24 patients for a period of from one to two weeks preoperatively and for three weeks postoperatively.

The immediate postoperative results of resection in 17 cases who did not receive streptomycin would appear to compare favorably with the results of the prophylactic group (Table 1). Two unplanned resections account for the two incidences of tubercu-

lous empyema and one bronchiogenic spread in the streptomycin group. If these two cases are excluded, the advantage of streptomycin is obvious. Tuberculous empyema resulted in the death of one patient who received no streptomycin and one death occurred in the streptomycin controlled cases as a result of operative hemorrhage. The high incidence of complications and the operative mortality in the streptomycin resistant group would lead us to seriously consider other measures for eradication of the disease in these patients, if at all possible. One patient in the streptomycin resistant group died of operative hemorrhage and two others died as a result of extensive bronchiogenic spreads.

Streptomycin should not be given to a patient undergoing pulmonary resection for a prolonged period of time unless he suffers an immediate spread or reactivation of the disease. We subscribe to con-

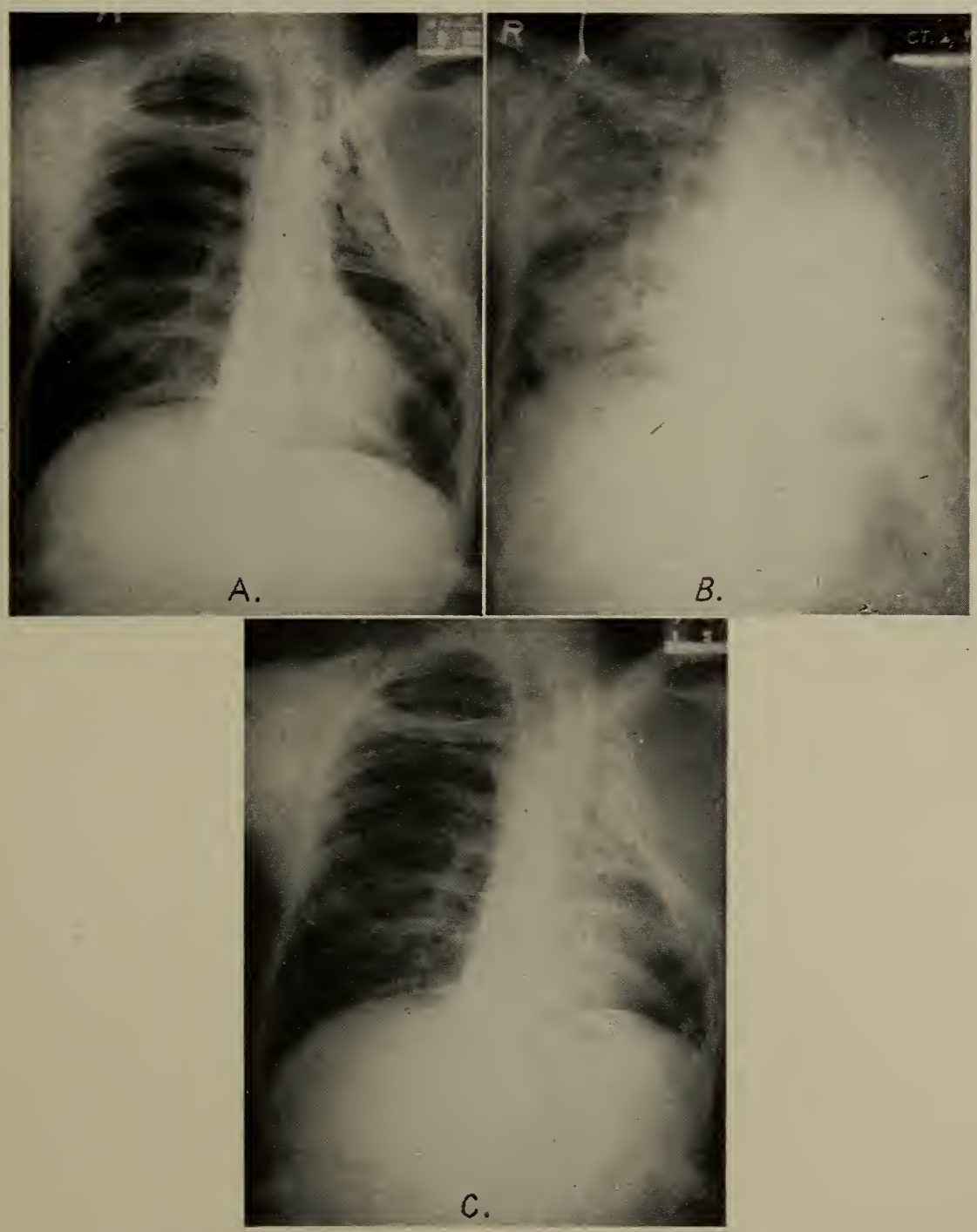

Fig. 2.—a. Failure of good anatomical 7 rib thoracoplasty to control disease left upper lobe. Sputum positive. b. Extensive bilateral bronchiogenic spread following left upper lobe lobectomy. c. Three months after lobectomy. Acute bronchiogenic spread affectively controlled by streptomycin administration. Sputum negative.

TABLE 1. MORTALITY AND OPERATIVE COMPLICATIONS 50 RESECTIONS

	Streptomycin Control	Streptomycin Resistant	No Streptomycin†
No. Cases	24	9	17
Deaths*	1 (4.1%)	3 (33%)	1 (5.8%)
Fistula Empyema	2 (8.3%)	2 (22%)	3 (17.6%)
Empyema Pyogenic	1 (4.1%)	0	0
Spreads	2 (8.3%)	3 (33%)	1 (5.8%)
Wound Tuberculosis	0	1 (11.1%)	1 (5.8%)
Tuberculosis Bronchial Stump	1 (4.1%)	1 (11.1%)	
*Operative Hemorrhage			2
Spreads			2
Empyema			1
†Positive Sputum			15

servatism of the drug even at this stage of the patient's treatment, for several of our cases have shown recrudescence of the disease months later. The use of streptomycin in controlling postoperative bronchiogenic spreads is oftentimes a lifesaving measure (Fig. 2).

stages and an extensive revision thoracoplasty elsewhere. He had an unstable chest wall prior to lobectomy and probably should not have been subjected to operation. Two additional patients will die of progressive disease. One patient developed a spread seven months after a lobectomy and 30 months later he is apparently well with a negative sputum. Two other late spreads or reactivations have an excellent chance of recovery. Eighty per cent, or 36 of the 45 patients surviving pulmonary resection, are doing well and have a negative sputum.

CONCLUSIONS

1. The disseminated characteristics of tuberculosis and its unpredictable behavior requires, at the time of initial treatment, broad vision as to the possibility of future additional methods of arresting the disease. The indiscriminate use of streptomycin during the period of conservative collapse measures or bed rest may later deprive the patient of valuable protection by this antibiotic during major operations.

2. Excision of the lung should be restricted to those patients for whom the modern type of thoracoplasty or other collapsing operations have proven unsuccessful or are likely to be ineffective. To a large extent the pathologic type and behavior of parenchymal disease governs not only the indications for resection but the time of performing the operation.

3. The prophylactic use of streptomycin in resections has led to a decrease in mortality and postoperative complications. Further experience may lead to the conclusion that lung resection for tuberculosis is not safe in the presence of streptomycin resistant organisms.

4. Lung resection has an established role in the treatment of pulmonary tuberculosis. Eighty per cent, or 36 of the 45 patients surviving resection, are doing well and have a negative sputum.

TABLE 2—LATE RESULTS 45 CASES SURVIVING PULMONARY RESECTION

	6 weeks to 3 mo.	3 mo. to 6 mo.	6 mo. to 1 yr.	1 yr. to 3 yrs.	3 yrs. to 5 yrs.	5 yrs. to 11 yrs.
Living and Well (Sputum Negative)—80%	3	4	3	10	10	6
Dead—6.6%	–	–	1	1	–	1
Progressive Disease	–	1	2	–	–	–
Late Spread or Reactivation	–	1	2	–	–	–

LATE RESULTS

Our series of 12 pneumonectomies and 36 lobectomies is too small to break down for comparative purposes. The follow-up studies extend over a period of from six weeks to eleven years (Table 2). Six of the 11 patients operated upon eight years or more ago are living and well and 2 were well at the time of their last follow-up examinations over three years after operation. The other two patients are dead. One died of a tuberculoma of the brain two years after a successful pneumonectomy and the other died from progressive pulmonary disease which was apparently reactivated by a persistent bronchocutaneous fistula of five years duration. This patient did not show any evidence of activity in the remaining lobe for a period of five years. The third late death in the series was due to insufficient respiratory reserve. This patient had had multiple thoracoplasty

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Aureomycin, Chloramphenicol Effective in Mixed Bacterial Infections.

Two Cincinnati physicians report that aureomycin and chloramphenicol—two of the most promising of the newer antibiotics—have brought good results in their treatment of a large number of mixed bacterial infections.

"The results of treatment (on 233 patients) with either of these antibiotics and the indicated surgical procedure were good in a majority of instances, the invasive qualities of the infection being quickly overcome and the local manifestations of the infection disappearing at varying rates," according to Drs. William A. Altemeier and William R. Culbertson in February 17 *J.A.M.A.*

The doctors are associated with the University of Cincinnati College of Medicine and Cincinnati General Hospital. They explained that lesions produced by mixtures of bacteria are especially resistant to chemotherapy and other forms of treatment because of the cooperative action of the infecting bacteria and their tendency to kill tissue and produce extensive abscesses in the abdominal and lung cavities, marked poisoning and progressive spread of the infection. Up to now, treatment of such infections has not been too successful, they said.

In a small number of cases, bacterial resistance to the drugs was noted, the doctors reported, citing 14 cases of resistance among the 179 patients treated with aureomycin and eight cases among the 54 patients who were given chloramphenicol. However, they added:

"There were indications that the efficacy of aureomycin or chloramphenicol in the type of infection in which some of the infecting bacteria were resistant could be increased by the concomitant use of other chemotherapeutic agents to which the organisms were susceptible in vitro (laboratory testing)."

The doctors reported little evidence of toxicity in the patients as a result of the drugs.

REHABILITATION OF GENITOURINARY MALFORMATIONS

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Exstrophy of the bladder is one of the most distressing malformations that confronts the patient, the family and the physician. In this condition the anterior portion of the bladder is absent and the posterior half including the ureters and trigone are exposed. In exstrophy there is also failure of fusion of the lower abdominal wall with separation of the symphysis pubis and recti muscles. The bladder occupies this defect and actually forms a hernia in the lower abdomen. In the male the roof of the urethra does not form, resulting in a complete epispadias of the penis. In the female the urethra is rarely present. The ununited and widely separated symphysis results in the waddling gait of the individual because of the anterior defect in the bony pelvis. The clitoris, if present, is cleft. Urine continually escapes from the exposed ureteral orifices. This malformation occurs once in 30 to 50 thousand births; an estimated 70 to 110 such unfortunates will be born in the United States in 1950.

The resulting total incontinence of urine is not a problem in the first one to two years of life because the normal baby is not continent up to that time. After the period when normal urinary continence supervenes, the management of this condition is a major one. There is no way in which satisfactory artificial urinals can be devised or worn, and all patients resort to absorptive towels and pads or else continually saturate their clothing. In every instance there is the problem of odor and these individuals are soon conscious of this unfortunate state of affairs. They are ostracized even by members of their family and a maladjusted personality is almost a certainty. They have every right to be seclusive and depressed, but it is remarkable that suicidal tendencies have been strikingly absent in patients with this anomaly. Because of the inability to devise means of effective control of the urine, and the ammoniacal odor their movements in the family life and society have been necessarily restricted, especially as they grow older.

Modern surgical repair of such anomalies have been reasonably successful, but in spite of this in the last decade we have encountered a number of cases in which the families would not agree to corrective surgery and also instances in which they have not been particularly urged by the medical profession to

Fig. 1-A. This figure shows the patient in Case I who was normally developed 21 year old man when first seen in 1941. The protruding bladder forming a hernia can be seen in the lower abdomen.

undergo such corrective therapy. A number of improved technical measures have been devised for the correction of these anomalies. In a few cases it has been possible for surgeons to reconstruct the bladder and urethra including the penis. Such an ideal pro-

cedure has been applicable only in rare instances because of the wide separation of the symphysis and herniation of the bladder wall. The latter has made it almost impossible to devise suture lines which would heal because of the constant intra-abdominal pressure against the reconstructed tissues. In most cases transplantation of the ureters into the bowel and excision of the bladder with correction of the defect has been necessarily the procedure of choice. It is a tendency among some urologists to insist upon transplantation and removal of the bladder very early in life. Some leading operators in fact insist that the correction should be made within three to six months of life. With improvement in surgical technique, the advantageous use of antibiotics and control of electrolyte balance a far more successful outcome can now be anticipated from the correction of such anomalies. In light of these results it is the duty of both parents and medical profession to effect such treatment for these unfortunate patients. It is the purpose of this communication to report three striking instances from our series at this hospital which illustrate the extent of rehabilitation that can be accomplished in patients who undergo correction of this anomaly late in life.

Case I. Univ. of Va. Hosp. #164935. A 21 year old man was admitted in January, 1941, with a history of complete exstrophy of the bladder and epispadias of the penis since birth. Fig. 1-A shows a full view of an otherwise normally developed individual. Fig. 1-B shows an enlargement of the genitalia. The raw, irritated and tender bladder extruded from the lower abdomen. The symphysis pubis was widely separated with a diastasis of the recti muscles. The later diverged widely in the lower abdomen from the umbilicus to the point of attachment of the corresponding symphysis. The dorsum of the penis was lined by mucous membrane, which was continuous with the floor of the prostatic or posterior urethra and the bladder mucosa. The verumontanum and minute prostatic ducts were visible in the floor of the prostatic urethra. On rectal examination the prostate was normal to palpation. The scrotum was well formed and both testes were of average size and well descended. The patient was very shy and did not relish examination. He had segregated himself from society most of his life and did not have any close friends or associates. He controlled the flow of urine from the ureteral orifices by wearing absorbent pads. but his skin had become saturated with annomiacal urine resulting in a strong odor. The patient was healthy and renal function was entirely normal as evidenced by intravenous pyelograms. The patient finally agreed to enter the hospital for further consideration. After encouragement he consented to operative correction of the anomalies.

Fig. 1-B. This figure is a close up view of the bladder in the same patient in Case I. The mucosa is excoriated and tender. The epispadiac penis (with absent urethra) is readily visible.

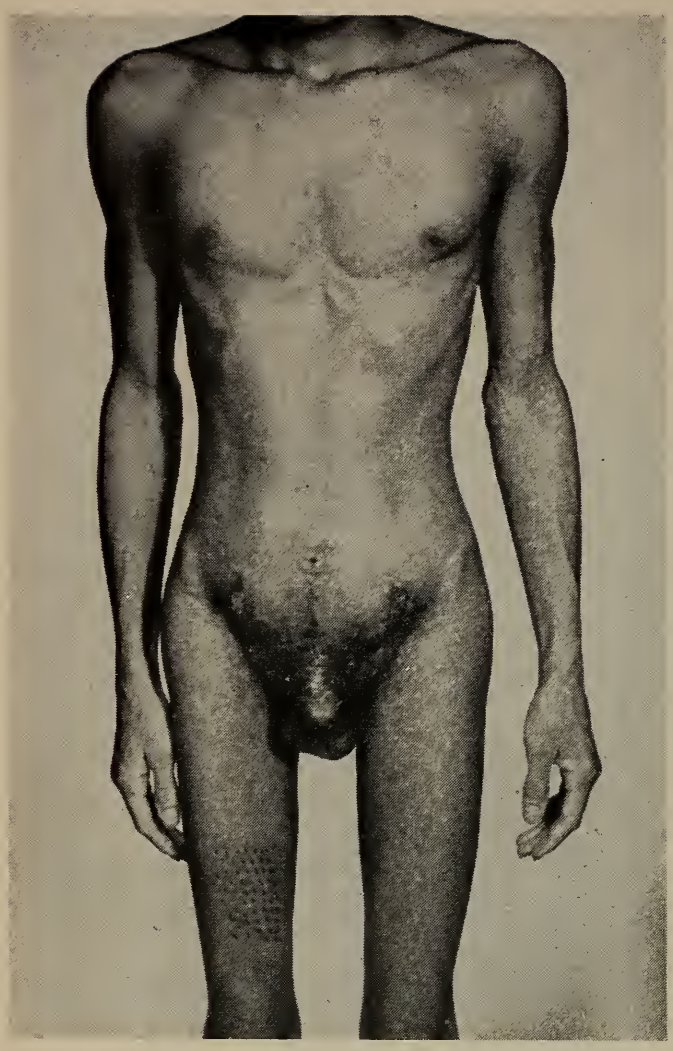

Fig. 1-C. This figure illustrates the condition of the patient in Case I several weeks later at the time of discharge from the hospital. The bladder had been removed with a successful plastic repair of the resulting hernia. He had complete control of the recto-sigmoid reservoir. A normal appearing penis is now present. The muccus membrane on the dorsum was turned inward to form a urethra beginning at the glans penis and ending in a blind pocket in the prostatic urethra. The patient later married and was able to have normal intercourse with ejaculation.

The following operative procedure was then performed. The exstrophied bladder was removed with preservation of each ureteral orifice surrounded by a small cuff of trigonum. The ureters were then transplanted into the upper rectum. Removal of the bladder resulted in a defect in the abdominal wall exposing the peritoneum which formerly covered the posterior aspect of the bladder in the manner of a large hernial sac. Fascial flaps were dissected from the lower lateral aspect of each recti muscle and brought over to the midline to form a buttress in front of this peritoneum. The skin on the lower abdomen was then closed down to the base of the epispadiac penis. Several weeks later a urethra was constructed which originated at the glans penis and ended in a blind pocket at the prostatic urethra. The patient had normal sex urge and had been able to masturbate by irritating the verumontanum so that ejaculation took place in the exposed prostatic urethra. Ejaculation on masturbation now was ejected from the glans penis in the usual manner. Following operation the patient returned home in a somewhat bewildered state to find himself reasonably normal when compared to individuals of his age, with the exception of a well healed scar which originated below the umbilicus in the midline and ended at the tip of the penis, (fig. 1-C). He evacuated urine per rectum without difficulty or any particular inconvenience.

It is remarkable that within a three year period of time he completely readjusted himself to normal life. He soon began to associate with individuals of his own age and of the opposite sex. He obtained a job and has since been able to support himself. Within three years he was married and on last report he was living happily with his wife, having normal and frequent intercourse which was entirely satisfactory to both. It is also remarkable that this patient could readjust himself to a life of reasonable normalcy after living one of a recluse for his first twenty-one years. It is also unfortunate that the correction could not have been accomplished much earlier in life so that he would not have been denied normal childhood and adolescence.

Case II. Univ. of Va. Hosp. #198360. This 12 year old girl was admitted in January, 1944, with a complete exstrophy of the bladder. The anterior abdominal wall was absent with protrusion of the posterior bladder wall and trigone above the suprapubic area. There was redness, excoriation and exquisite tenderness of the protruding bladder. The clitoris was bifid with the labia and the pubic bones widely separated. The urine was draining freely from the ureters down over the bladder, lower abdomen and inguinal regions.

The hymen was imperforate. Rectal examination revealed good sphincter control. A mass was palpable in the anterior rectal wall which was felt to be the fundus of a normal uterus. This girl was extremely shy and her family had to bring her to the hospital by force. On several occasions when her mother tried to bring her for the first examination she ran away from her home up into the hills and it was with considerable trouble that her family prevailed and allowed us to admit her.

In January of the same year we carried out successful bilateral transplantation of the ureters into the sigmoid. This diverted the urinary stream and urinary control as a problem was eliminated. Her postoperative course was extremely smooth and subsequent pyelograms revealed entirely normal kidneys. At the time of the transplant, the patient was twelve years old. After diversion of the urine the mucous membrane of the bladder was no longer excoriated and it assumed a rather pale, shrunken appearance. She returned three months postoperatively because of a bulging hymen. She had begun to menstruate so that perforation of the hymen released the obstructed menstrual flow. Intravenous pyelogram at the time revealed an entirely normal upper urinary tract. The patient was scheduled to return to the hospital within the year for excision of the exposed bladder. The mother contacted us several times and explained that she could never "catch" the patient to have her return for removal of the bladder.

The patient was next seen by the writer a year ago at the age of seventeen. She had grown remarkably, lost her reticence and stated that she did not have time to come back for removal of the bladder because she was now married.

This is another example of a remarkable reversal of status both in the physical condition and the psychological outlook of an unfortunate individual. Other than the exstrophy of the bladder, which is still present, the patient has grown to be a perfectly normal looking woman and is evidently leading an entirely normal family life with no history that would suggest other than normal kidney function.

Case III. Univ. of Va. Hosp. #65513. This 21 year old girl was admitted in 1927 with complete exstrophy of the bladder. The patient had previously been seen in 1910 at the age of four and corrective operation refused at that time by the patient's mother. She had returned at the age of 21 requesting operative treatment because she had become so obnoxious to herself. She was nervous, easily excited and had begun to have fainting spells of unexplained etiology. She had been menstruating normally since the thirteenth year.

Examination showed a complete exstrophy in which the bladder wall and mucosa projected to the exterior. There was failure of closure of the pubic bones but in this case the body of the symphysis was connected by a fibrous band. Below the projecting bladder were well developed labia majora. Associated with this genital anomaly was polydactylism and webbing of both fingers and toes. The extra digits had been removed at three days of age. At this time intravenous urography had not been developed but retrograde catheterization of the ureters and pyelograms revealed normal upper urinary tract. In November, 1927, the right ureter was successfully diverted into the sigmoid followed by a similar diversion of the left in January, 1928, (Dr. J. H. N.). In September, 1929, the patient returned for complete excision of the exstrophy of the bladder. The defect was closed by a flap of abdominal skin and the imperforate hymen was excised laterally to admit two fingers. A moderate size ventral hernia per-

Fig. 2-A. This figure illustrates the patient in Case III 23 years following transplantation of both ureters into the recto-sigmoid followed by excision of the completely exstrophied bladder. It can be noted that a small diastisis of the recti is still present with an abdominal hernia persisting at the site where the bladder was removed. The hernia was non-progressive and asymptomatic. Vertical incisions in the abdominal wall are visible where it was necessary to divide the abdominal skin in these areas in order to approximate the skin in the midline over the hernial defect after removal of the bladder.

sisted postoperatively but this has been of no particular moment. The patient soon readjusted herself to a life of urinary control, and passed urine three times during the day and twice at night. When seen five years later she gave no history of pain in either kidney, chills, fever, or other complaints. She was married and reported that intercourse was normal. The patient was seen again in 1939 with no complaints referable to the urinary tract but with some suggestive symptoms of hyperthyroidism.

She was seen again in May, 1950, and looked to be normal and healthy (fig. 2-A). Figure 2-B shows close up of the genitalia and the small asymptomatic hernial defect in the scar where the bladder was excised. She was still happily married and carries out her house and farm work. She stated that she has had no chills, fever, or pain in the region of the kidneys. There have been no illnesses of any kind except for a very rare coryza. She evacuates urine copiously from the rectum once to twice at night and from three to six times during the day without difficulty.

SUMMARY

These three cases from our files illustrate the possibilities of both anatomical and psychological rehabilitation in patients with such tragic genitourinary abnormalities. It is important that these patients come under the surveillance of qualified urologists early in life so that proper plans can be made for the correct technical procedure at the proper time. This is a joint responsibility of the family and medical profession. With such adjuvants as modern surgical technique and antibiotics a satisfactory rehabilitation can be effected earlier in life and spare both the patient and family much mental anguish.

New Books.

The Tompkins-McCaw Library of the Medical College of Virginia, Richmond, lists some of its newer books which may be borrowed under usual library rules:

Bauer—Differential diagnosis of internal diseases.

Baur—Urgent diagnosis without laboratory aid.

Colebrook—A new approach to the treatment of burns and scalds.

DeJong—The neurologic examination.

Dixon—Multi-enzyme systems.

Feinberg, Malkiel and Feinberg—The antihistamines.

Henderson and Gillespie—Textbook of psychiatry. 7th edition, 1950.

Holmes and Schulz—Therapeutic radiology.

Jones—The effect of gastric mucin on the infectivity of fungi responsible for certain systemic mycotic infections. A thesis.

Kyser—Therapeutics in internal medicine.

McBain—Colloid science.

Mettler, ed.—Selective partial ablation of the frontal cortex.

Rosenblueth—Transmission of nerve impulses at neuroeffector junctions and peripheral synapses.

Selye and Stone—On the experimental morphology of the adrenal cortex.

Turner—The clinical use of testosterone.

United States air force—German aviation medicine. World War II. Vols. I and II.

Williams, *et al.*—The biochemistry of B vitamins.

EARLY MEDICINE IN THE OLD DOMINION*

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My subtitle might well be "What the Virginia Frontier Did to English Medicine." The first settlers were deep-water pioneers. Sailing vessels from England came to their very doors, bringing household goods, books and news from London in exchange for tobacco and lumber. Although savage Indians roamed the forests to the rear of their plantations, the settlers were in constant communication with the mother country. Later, as tobacco culture depleted the land, and more settlers came, immigration pushed on into the Piedmont. To these the cost of transportation of goods from England was almost prohibitive and the settler was thrown upon his own resources. While this was going on in Eastern Virginia, another stream of immigration started down the Valley of Virginia from Pennsylvania. These people were Irish, Scotch-Irish, Germans and Swiss. They were thrifty, hard-working and liberty-loving, and they set great store upon education. The Cohees, as they were called, were quite different from the Tuckahoes east of the Blue Ridge, and had many qualities that the easy-going Eastern Virginians lacked. These two forces met in Augusta County† and amalgamated, as much as there can be amalgamation with a Scottish Presbyterian. We hear much of the various melting pots, but Nature must have chosen well the ingredients for this crucible, for out of it came great names in medicine, as well as in the economic and political history of the nation.[1] Ephraim McDowell, who performed the first ovariotomy and thus laid the foundation for Modern Surgery, and his heroic patient, Jane Todd Crawford, both migrated to what is now Kentucky from this section. Jessee Bennett performed the first cesarean section in this county, and Alexander Humphreys, the precepter of both McDowell and Bennett lived and practiced there. Here were born Cyrus McCormick, inventor of the reaper, and James A. E. Gibbs of sewing machine fame, Archibald Alexander, the theologian, John Letcher, the statesman, and Sam Houston, who brought Texas into the Union and did many other things, creditable and otherwise.

The log cabin is a good indicator of this mixture of civilizations. The Eastern Virginians knew nothing about building a log house.[2] Not until the Germans came into the Valley of Virginia do we find evidence of the log cabin. In several decades it had spread east over the Blue Ridge Mountains and west into Kentucky. Just as the early Virginians lived in English houses and made gardens patterned after those in the old country, so they practiced, whenever possible, the kind of medicine that their kinsmen across the Atlantic practiced. Let us see what this medicine was.

When the English established their colony at Jamestown in 1607, medicine was just waking up from its long sleep of the middle ages. Vesalius (1514-1564) had begun to picture anatomy as he actually saw it, and not as Galen had described it, and Paré (1510-1590) had introduced some common sense into the practice of surgery. Francis Bacon (1561-1626) was just beginning to teach men to think scientifically. Harvey (1578-1657) had not yet discovered the circulation of the blood, nor had Leeuwenhoek (1632-1723) constructed his microscope. Physiology and pathology were non-existent. There were no disease entities, just undifferentiated disease, and the medical practitioner had only to know whether it were constitutional or local, sthenic or asthenic, and in what degree, in order to institute what was considered the proper treatment. Treatment was essentially antiphlogistic-restricted diet, purging and bleeding.

The organization of medicine was much more complicated. In London the practitioners of medicine and surgery were divided into, and controlled by, medical corporations comparable to the guilds of the middle ages. The College of Physicians, founded in 1518 functioned for the physicians, except that medical graduates of Oxford and Cambridge were exempt from its jurisdiction.[3] The general body of the medical profession belonged to the Barber Surgeons Company which had disciplinary powers and ensured certain minimum standards of knowledge. The apothecary in London belonged at first to the Grocer's

*Read in the Section on Miscellaneous Topics at the Centennial Meeting of the American Medical Association.
†Augusta County at one time included Rockbridge, Bath, Alleghany Counties and the State of Kentucky.

Company. In 1606 the apothecaries obtained a charter from King James I for a separate organization which in 1617 became "The Society of Apothecaries". In time the apothecaries encroached so greatly upon the province of the physicians that fierce quarrels arose between the two bodies.

The first impact of the Virginia frontier on the English system occurred in 1608. Walter Russell, a physician, accompanied Captain John Smith and a small party on an exploring expedition.[4] On a tongue of land, now called Stingray Point, between the Rappahannock and the Piankatank Rivers, and the Chesapeake Bay, Captain Smith was stung on his forearm while taking a ray from his sword. In four hours the hand, arm, shoulder and part of Smith's body were so greatly swollen that it was thought he would die. In fact, his grave was prepared nearby. There being no surgeon available Dr. Russell applied a precious oil and ere night the tormenting pain was so well assuaged that Smith ate the fish for his supper, thus exemplifying the old adage that the hair of the dog is good for the bite.

There is no evidence that there was ever any distinction between physician, apothecary, and surgeon as had existed in Great Britain. In fact, anyone who felt like it practiced medicine in Colonial Virginia, and there were many charlatans and quacks. The state of medical knowledge was conducive to such practices. No diagnosis was necessary. If a patient were sthenic, he was bled and purged, and it was just a question of how much. If he were asthenic, and few were, he was given supportive treatment, wine and iron. All the practitioner needed was confidence in himself and a feeling of superiority that often comes from the possession of books, any kind of books, in a society half of whose members could not sign their names. William Byrd and Thomas Jefferson are brilliant examples of the lay practitioners of medicine. Mr. Jefferson took great interest in the philosophical aspects of medicine. He was influential in establishing branches of medicine in William and Mary College and imported the first full-time medical faculty for his newly founded University of Virginia.[5] More than anyone else perhaps, he was responsible for the introduction of vaccination into the United States.[6] Mr. Byrd, on the other hand, was interested in the actual practice of medicine. He had a poor opinion of the practitioners of his time[4] and did not hesitate to practice upon his servants and to send to London for remedies for himself.

The early Virginian, like pioneers the world over, did not think highly of technological knowledge. He solved his own engineering problems and took care of his medical emergencies. In 1639 the House of Burgesses passed a bill regulating fees. Physicians were spoken of as "avaricious and griping practitioners of physic and chirurgery" who exacted "excessive and immoderate prices" for their services. By 1660-61 the colony had become more civilized and passed a bill which provided for the collection of fees out of deceased patients' estates. But thirty years later the act was revoked and physicians were made liable under the new law for arrest for overcharging. From this time on, the House of Burgesses took more interest in the practice of medicine. In 1712 it passed an act providing for the registration of births, christenings, and burials. The minister of the parish was empowered to keep these records. Other acts provided for the care of the indigent sick (1748), for the quarantine of ships coming from countries where the plague was epidemic (1722), for quarantining against jail fever and smallpox (1767), and several acts between 1768 and 1792 regulated inoculation of smallpox.

It is surprising to find so little evidence of the influence of Indian Medicine. When this country was colonized, therapeutics was in the ascendancy. Herb Gardens were prominent features of the English landscape. It was hoped that discoveries across the Atlantic would produce new herbs and roots. The discovery of cinchona bark added weight to this hope. What was more natural than to believe that the Indian, the child of Nature, would know many of Nature's remedies. The wide-spread use of Indian remedies that were sold at circuses and fairs at the beginning of the present century was a fruition of such beliefs. The colonists came in close contact with the Indians, both in war and in peace, but were apparently little influenced by Indian medicine if indeed they knew anything at all about the Indian's medical practices. It is true that John Tennent, in his Essay on the Pleurisy (1736), extolled the virtues of polygala senega, commonly called snake root. He states that he learned from the Senecas that the root of this plant, when chewed immediately, would prevent death from the bite of a rattlesnake.[4] He argued that so potent a remedy should be helpful

in the treatment of pneumonia and pleurisy for which there was no useful remedy at the time. Tennent convinced himself of the value of the remedy and received a grant of 100 pounds from the House of Burgesses, but he failed to convince his fellow practitioners.

The only other Indian remedy that I have discovered, proved to have more virtue. William Byrd,[8] in his "History of the Dividing Line", relates that he asked his Indian guide why so few Indian women were barren. His Indian answered with a broad grin upon his face that the Indians have an infallible secret for that. "If any Indian woman did not prove with child at a decent time after Marriage, the Husband, to save his Reputation with the women, forthwith entered into a Bear-Dyet for Six Weeks, which in that time makes him so vigorous that he grows exceedingly impertinent to his poor wife and 'tis great odds but he makes her a Mother in Nine Months. And this I am able to say, besides, for the Reputation of the Bear-Dyet, that all the Married men of our Company were joyful Fathers within forty weeks after they got Home, and most of the Single men had children sworn to them within the same time, our chaplain always excepted, who, with much ado, made a shift 'to cast out that importunate kind of Devil, by Dint of Fasting and Prayer.' "

Lest you gain an unfavorable opinion of Virginia doctors, I hasten to recount some of their achievements. It should be remembered that Virginia was essentially rural. While there were villages like Williamsburg, Richmond, Norfolk, Staunton, Fredericksburg, Alexandria, Tappahannock, and Port Royal, the people lived by preference in the country, and behaved like countrymen. The doctors were isolated and had little opportunity to sharpen their wits by contact with other doctors. However, they had recourse to books. The county records show that the medical libraries of Virginians of the colonial period were surprisingly large and well chosen.[5] Such classical names as Fracastorius, Thomas Sydenham, Albrecht von Haller, William Cheselden, William Smellie, Walter Harris, John Huxham, John Friend, Thomas Willis, and William Harvey occur frequently. Celsus and Galen appear but rarely, but Hippocrates was still a popular authority. Other popular authors whose luster has somewhat faded, were John Astruc, Richard Wiseman, James Keill, Daniel Turner, Alexander Monroe, James Drake, Lorenz Heister, Samuel Tissot, and Nicholas Culpeper. Blanton gives the lists of several libraries, i.e., that of Colonel William Fleming, who practiced in Botetourt County; Dr. Kenneth McKenzie of Williamsburg; Dr. David Black of Blanford; Dr. Alexander Reade of Middlesex County, as well as the medical books of two laymen, William Byrd II, and Daniel Parke Custis.

The first research in Virginia was done by Lawrence Bohun, who came to Virginia in 1610 with Lord Delaware. He investigated the medicinal properties of sassafras and rhubarb. His stay in Virginia was short for his lordship had the scurvy and Bohun took him to the West Indies where he could have the benefit of fresh oranges and lemons.

One of the best known medical scientists of Colonial Virginia was John Mitchell. His contributions covered a wide range of subjects—botany, medicine, chemistry, physics, cartography, and agriculture. In 1774 he published "An account of the Yellow Fever which prevailed in Virginia in 1737, 1741, and 1742." His clinical description of the many patients that he saw and of the five autopsies that he performed, are remarkably accurate. A map that he published in 1755 was used at the peace conference at the end of the Revoluntionary War. In botany he described a number of new genera and Linneus named the partridge berry *mitchellia repens* in his honor.

John Clayton (1693-1773) of Gloucester County was one of the greatest botanists of America. His *Flora Virginica* is a magnificent work. It does not appear that he practiced medicine, although the title page of his book would indicate that he held a degree in medicine. He is frequently confused with John Clayton, the clergyman of Williamsburg who wrote a number of medical treatises.

Dr. William Brown (d.1792) of Alexandria is credited[5] with the first pharmacopeia in America. He succeeded Benjamin Rush as Surgeon-General of the Middle Department of the American Army. Because of the war, physicians had to rely almost entirely upon drugs that could be grown and prepared in this country. It was to meet this need that Brown wrote his pharmacopeia.

Shortly after this in 1786, John Leigh of King William County, while a student at Edinburgh, published an essay, "An Experimental Inquiry into the Properties of Opium", which won the Harveian Prize.

This remarkable essay, based on experimental work in both animals and human beings, had all the qualities of a modern pharmacological monograph.

Alexander Somervail, who practiced in Essex County, was one of the first to recognize typhoid fever as a distinct disease.[7] In his article "On the Medical Topography and Diseases of a Section of Virginia" (1823) he called attention to certain differences in the epidemiology of malaria and typhoid fever. To prevent recurrences of the former he prescribed thirty grains of Peruvian bark two or three times in the forenoon of every second day until frost came.

Thomas Ewell (1785-1826) of Prince George County, who two years before he died published a popular "family physician", did some remarkable experiments upon gastric secretion while he was a student at the University of Pennsylvania. The results of these experiments were reported in his graduation thesis, "Notes on the Stomach and Its Secretion."

One of the most noteworthy contributors to medical literature was Robley Dunglison (1798-1869). He was professor at the University of Virginia for nine years. "Sir William Osler paid him a splendid tribute. In his farewell address at the dinner given to him on his departure for Oxford, Osler said, 'Thomas Jefferson did a good work when he imported him from London, as Dunglison had all the wisdom of his day combined with a colossal industry. He brought a great and well deserved reputation to Jefferson College. After all, there is no such literature as a dictionary and the twenty-three editions through which Dunglison passed is a splendid testimony to its usefulness. It was one of my standbys, and I still have an affection for the old editions of it which did such good service. . . . But the book of Dunglison, full of real joy to the student, was the "Physiology", not so much (for its) knowledge—that was all concentrated in Kirkes—but there were so many nice trimmings in the shape of good stories'."[9] Besides the "Dictionary" and "Physiology", Dunglison wrote an excellent little "History of Medicine," and several lesser known books. Another well known professor who worked for a while in Virginia was Brown-Sequard (1817-1894) who taught at the Medical College of Virginia in 1855, but he is too modern to come within the limits of my paper.

The greatest surgeon of early Virginia was easily William Baynham (1749-1814) of Essex County, a brother-in-law of Alexander Somervail, who has already been mentioned. He was the son of Dr. John Baynham of Caroline County. After serving an apprenticeship of five years under Dr. Thomas Walker, he studied at St. Thomas' Hospital, London, and became the greatest practical anatomist of his day. He returned to Virginia in 1785 after an absence of 16 years, and began practicing in Essex County. Here he established a national reputation, second only to Dr. Physick, the father of American surgery. He is known to anatomists as the discoverer and demonstrator of the vascularity of the *rete mucosum,* and to surgeons as the second to operate on an extra-uterine pregnancy. He was a master of the injection technique. His preparation of the female breast in the museum of Mr. Cline is said never to have been equaled.[4]

Baynham's description of his operation for abdominal pregnancy throws an interesting side light upon country surgery of the time. The patient consulted him 3 or 4 years after a missed labor. He made a diagnosis of extra-uterine conception and advised the patient that she would have to await a second labor when Nature would in some way or other rid her of her burden. Three and a half years later when the patient was seized with influenza which was then epidemic, the abdominal tumor became painful. After several months, as there was no improvement, it was evident that something must be done. He attempted to open the tumor but, after making an incision for 2 or 3 inches, he desisted, having neither books to consult (only one other case had been reported) nor medical friends to advise with. Ten months later it was evident that something must be done to save the woman's life. He determined at all hazards to extract the child. This time he was successful and the woman recovered.[11] Eight years later when a second case presented itself, he did not delay. He removed the fetus intact, but left the placenta, small pieces of which came away with each dressing. This patient also recovered.

About the time that this was going on in Eastern Virginia, Jessee Bennett across the mountains performed the first cesarean section in the United States.[12] The patient was his own wife, and he operated in desperation because she could not be delivered *per naturam viam* and no one else would deliver her through the abdomen. Not only did he

deliver the baby, who lived to be an old woman, but he removed both ovaries so as not to be again subjected to such an ordeal. Hugh Trout thinks that this operation must have had a profound influence upon Ephraim McDowell and his epoch-making operation. McDowell and Bennett were friends. Both had studied under Dr. Alexander Humphreys, and McDowell visited with Bennett upon his return from Edinburgh shortly after the cesarean section had been performed.

The last surgeon to be considered is perhaps the most dyed-in-the-wool country doctor of them all. Despite phenomenal successes, he remained incurably a countryman. At one time he was professor of surgery in Baltimore, but after two years gave it up to go back to his beloved Prince Edward County. John Peter Mettauer[13] (1787-1875) was the son of a French surgeon who came over with Lafayette's troops in the Revolution. He was born in Prince Edward County, studied at Hampden-Sydney College, and graduated in medicine at the University of Pennsylvania. Except during the war of 1812 when he was stationed in Norfolk and the two years that he was in Baltimore, he spent his long life in Prince Edward County, practicing medicine until the very end. He always had from forty-five to sixty surgical patients under his care.[14] The hotels of the neighboring villages and even private homes were filled with them. But he did not confine his work to surgery, as his extensive writings upon yellow fever, congestive fever, Asiatic cholera, continued fever, remittent and intermittent fever, and puerperal fever indicate. Besides, he had many private pupils, and in 1837 he organized these into the Prince Edward Medical Institute which in 1848 became the medical department of Randolph-Macon College. Just before the Civil War he built a hospital which was run in connection with the college. His achievements in surgery were truly remarkable. In 1827 he operated successfully for cleft palate, the first operation of the kind in Virginia and one of the first in the United States. He used lead sutures in the staphylorrhaphy, which he had learned from reading of Diffenbach's operation the previous year. His mastery of the technique of metallic sutures enabled him to cure vesico-vaginal fistula. He was one of the first surgeons in the world to successfully perform this operation and was actually the first to report any series of successful cases. He was also successful in repairing lacerated perineums, an operation that was rarely attempted in his day.

Writing of perineorrhaphy, Sir James Y. Simpson said:[15] "Operations for the relief of such cases were carried out by Guillemeau, and more recently by Roux, Noel, and others. In America, Mettauer operated successfully, using lead wire for his sutures; and a mass of cases scattered about in our surgical and gynecological records . . . sufficiently attest the value of the operation."

In his introductory address at Washington College in Baltimore, Mettauer stated that operations for malignant disease should be undertaken, in spite of adverse public opinion, if the judgment of the surgeon is that the patient may benefit. Many cures in such cases have been accomplished. The surgeon should be well grounded in morbid anatomy and should frequently refresh his knowledge of regional anatomy by dissecting and by studying good charts. Mettauer had a good clinical insight into shock, which he called "traumatic irritation". Although a pupil of Rush and Physick, he says that in this condition blood letting or any operation entailing the slightest loss of blood would be fatal.

If time permitted, I would have something to say about Virginia hospitals. The first hospital that was built in the English colonies was destroyed in the Indian massacre of 1622, when the whole town of Henricopolis was entirely wiped out. The first hospital for the insane (1773) is still operating at its original stand, as is the first Marine Hospital (1800). Virginia also has the distinction of being the first colony to make provision for the Negro insane.[7]

I would like also, time permitting, to discuss the Virginia doctors who made names for themselves in other fields, men like Dr. Thomas Walker, who besides being the first to trephine bone for suppurative myelitis, was the first white man to visit Kentucky. Among others were General Hugh Mercer, who lost his life at the battle of Princeton, Theophilus Bland, poet and soldier of the Revolution, and Dr. Arthur Lee, international lawyer and diplomat.

Summary

Necessity incident to frontier conditions obliterated all regulations and restrictions on the practice of medicine. Necessity likewise made the Virginia doc-

tor intensely practical. The rural character of the people accentuated this trend. The country doctor was not given to theorizing but was a keen observer. The influence of the Indian was negligible (except for the destruction of the first hospital). Outside of surgery, original work took the form of botanical studies, the search for cures, and studies in digestion. The fact that there were no great teaching centers in Virginia is probably the reason why so many of these worthwhile observations received so little recognition.

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Improved Nerve Block Technique in Painless Childbirth.

An improvement of the nerve block technique in painless childbirth—which involves only one site of injection instead of the former two or four—is described in the February 10 *J.A.M.A.* Dr. Orlen J. Johnson of Bay City, Michigan, reports that he has used the new technique on 161 women, of whom 92 were becoming mothers for the first time.

With skilled injection, he explained, the patient complains of no discomfort. He added that no reactions from the procaine, a local anesthetic, or complications have been encountered and that there has been no greater discomfort or delay in the healing of the surgical incisions.

The most satisfying results, he reports, are obtained if the nerve block is made during the second stage of labor.

According to Dr. Johnson, the advantages of the nerve block method are:

(1) Greater cooperation of the patient and control of the baby's head as it advances through the birth canal; (2) less damage to the mother's tissues; (3) less surgical intervention on the part of the obstetrician; (4) no ill-effects on the baby from this type of anesthesia; (5) lessens chances of hemorrhage.

"The advent of 'painless childbirth' or, more appropriately, 'childbirth without fear' when coupled with other advances which have lowered mortality and morbidity can bring a new era in obstetrics," he said.

OCULAR TORTICOLLIS: REPORT OF A CASE*

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In 1875 Cuignet described ocular torticollis as a compensatory head tilting in cases of paralysis of one of the muscles controlling the vertical movements of the eye.

Professor Mann states that, "to diagnose true ocular torticollis, we have considered that the head tilt should be present at the time and should be practically lifelong: that the eye movements should be abnormal; that the vertical squint should be apparent with the head erect and that the patient should be binocular only with the head in the tilted position." The cases not fulfilling these criteria should be classed as head tilting associated with hyperphoria.

Ocular torticollis is much more frequently met with than the literature would imply—when we look for it, many cases are found in office practice. They vary in degree of disfigurement and, unless extreme, are frequently unnoticed by the patient.

By far the most common vertical imbalance is that due to paralysis of the superior oblique. This follows palsy of the trochlear nerve—Bielschowsky states that paralysis of the superior oblique occurs about half as frequently as the external rectus paresis.

Head Tilt: Bielschowsky states the following rule concerning vicarious rotation of the head. "The patient chooses the least inconvenient position of the head by which the paretic muscles are sufficiently relieved, so that binocular single vision can be obtained." In the case of superior oblique paresis, the position chosen is usually to the sound side.

When the head is tilted to one side, the eyes rotate about the visual axis, to the opposite side. This parallel rotary motion is performed by both inferior muscles of one eye (inf. rectus and oblique) and at the same time the superior muscles (super. rectus and oblique) of the other eye. If the muscles of each eye are equally strong, the combined action of the

Before operation. Head tilted to left shoulder. Chin elevated to right.

Before operation. Head forcibly straightened. Left hyperphoria and mild divergence.

After operation. Head not tilted. Hyperphoria corrected.

The British ophthalmologist J. Greine examined 9,500 recruits and found two cases due to spastic sternocleidomastoid muscle and sixteen cases of ocular torticollis.

Duane stated that all vertical imbalances are paretic in origin, but McCullough points out that following meningitis and brain lesions, in over-development of one muscle and with muscle insertion abnormalities, one might encounter a spasm or over-action of one of the vertical muscles.

two pairs causes no deviation of the visual axis, for the antagonistic components of these muscles compensate or balance each other. A parallel rotary motion occurs therefore. If, however, one muscle of this group is weaker than another, there is deviation of the visual axis.

For example, suppose, in a case of right trochlear nerve palsy, the head is tilted to the left side. From this action vestibular stimulation goes to the muscles which cause parallel rotary motion to the right or opposite side. This movement is produced by the

*Read before the Medical Association of the Valley of Virginia at Harrisonburg, May 25, 1950.

inferior muscles of the right eye and the superior muscles of the left. Thus the motion is produced without calling upon the weak right superior oblique muscle and no deviation of the eyes need occur. If, however, the head is tilted to the paralytic side, the paretic superior oblique is called upon and, being weak, deviation occurs.

Diagnosis: Ocular torticollis depends upon binocular single vision; therefore, it increases with development of fusion.

Many cases of ocular torticollis have been diagnosed as due to spastic sternocleidomastoid muscle. Section of this muscle has not corrected the cases but has made them worse.

Diagnostic Signs	Sternomastoid Contraction	Ocular
1. Head tilt	Towards spastic neck muscle	To sound side of patient with paresis of ocular muscle not spastic
2. Sternomastoid muscle	Spastic and tense	Not spastic
3. Position of face	To side of tilt	Away from side of tilt
4. Head position	Unable to straighten head readily	Can straighten voluntarily.
5. Conjugate eye movements	Muscle balance	Paresis of vertical muscle
6. Facial asymmetry	May be marked	Slight or absent

Treatment: Prisms prescribed in glasses and orthoptics are seldom of much value. Surgery is a definite indication.

The choice of operation depends upon the muscle or muscles involved and whether we are dealing with a purely paretic muscle or a combination of a paretic muscle and spasm of its direct antagonist.

In the case of superior oblique muscle paresis, most observers have advocated recession of the opposite inferior rectus. If the deviation is not corrected, due to spasm of the inferior oblique of the same side, recession of this muscle may be done.

In recent years W. P. McGuire has described an operation for shortening of the paretic superior oblique. Timidity among ophthalmic surgeons is giving way to a recognition of the value of the McGuire modification of the Wheeler operation. It is rapidly becoming the procedure of choice in cases of genuine paresis of the superior oblique with marked tortion of the image and fixation with the sound eye.

Head tilting may occur in superior rectus paresis and is usually accompanied by congenital ptosis. The head position may be habitually tilted if the patient is thereby aided in obtaining binocular single vision. The head is tilted backward and turned to paretic side.

Paresis of the inferior rectus may occur but paralysis of the inferior oblique is extremely rare. These conditions seldom produce true ocular torticollis but, if present, the head tilt should be corrected by approach to the affected muscle. Care should be used in operation on the superior rectus, as ptosis may be produced.

Case Report

Joanne Z., a 5-year old girl, was presented by her parents complaining of "wryneck."

Her family and past history were unimportant except that birth was difficult and by forceps delivery.

Her present illness dated from two years after birth when it became noticeable that there was a definite tilt of the head towards the left shoulder. This tilt may have been noticeable at times prior to this, but it was definite at 2 years of age. The face turns to her right very slightly and there is a slight elevation of the chin. This condition became more and more noticeable until her family physician was consulted. A diagnosis of spastic torticollis was made and patient referred to a pediatrician for consultation. The diagnosis of spastic torticollis could not be confirmed and the pediatrician referred her to an orthopedist. An operation on the sternocleidomastoid muscle was advised by this specialist but the parents were not entirely willing. Another orthopedist was consulted and requested an eye consultation. The oculist made a diagnosis of right hypertropia with head tilt to the left and surgery of the eye muscles was advised. The parents wishing to have the work done nearer home, consulted me on October 8, 1948.

Physical Examination: A well-developed girl, five years of age, and of bright, happy disposition, was presented at my office. Her head was tilted toward her left shoulder; the face was slightly turned to the right and chin slightly elevated.

There was no spasticity of the neck muscles and the head could readily be tilted towards the right shoulder both actively and passively. There was no

noticeable asymmetry of the face.

The teeth, nose, and throat and sinuses were essentially normal. The Chest: Normal.

Vertebral Column: There was slight deviation to the right of the upper thoracic vertebra.

Extremities: Normal.

The Eyes: There was no inflammation present.

The eyes were slightly divergent with the head tilted to the left. The right visual axis was higher than the left when the head was tilted to the right. There was no apparent limitation of the eye movements.

The exotropia measured 20° to the right and left for distance, and 16° for near.

The right hypertropia varied from time to time. There were 5° and 10° looking up and to the right and a like amount up and to the left. There were 10° to 12° on gazing down and to the right.

The right hypertropia was greatest on looking down and to the left—being 30°.

Fixation varied but was usually with right or paralytic eye in all directions.

The vision was 20/20 in the right and 20/25 in the left, and the refraction under mydriasis was plus 175 ds with plus 50 cylinder and axis 90 in each eye. The near point of convergence was 120 mm.

A diagnosis of partial paresis of right superior oblique with spasm of right inferior oblique with exotropia due to divergence excess was made. The left external rectus was thought to be weaker than the right. On February 4, 1949, a four mm. recession of each external rectus was done and at the same time the right inferior oblique was recessed freely. Recession of the left inferior rectus was considered a possible later necessity.

On subsequent examinations the head was straight and the vertical muscles balanced except for 2 degrees of hyperopia when extreme gaze was up and to right. No further surgery was necessary.

Conclusions

1. Ocular torticollis is more frequent than usually believed.
2. This entity is not a true wryneck, and no permament changes of neck muscles result from the long, continued, posture assumed.
3. Many cases are diagnosed as spastic and the neck muscles are operated upon without relief.
4. Correction of the vertical ocular muscle deviation results in correction of the neck deformity.

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Emergency Doctor Call System Has Rapid Growth.

Medical societies in 329 communities have established night and emergency doctor call systems, according to a report by the Board of Trustees of the American Medical Association. A survey made in the summer of 1948 had shown only 60 such plans in operation.

"While these plans vary greatly according to the size of the community, they all have the same purpose—to guarantee that the people of the community can obtain a doctor at any time of the day or night, any day in the year," it was stated by Dr. Louis H. Bauer of Hempstead, N. Y., chairman of the Board of Trustees.

"The systems are so efficient that even in New York County, which operates the largest emergency call system in the country, it requires no more than seven or eight minutes to have a doctor on his way to answer a call."

Dr. Bauer added that the board "urges all county medical societies that have not yet established a formal plan for answering night and emergency calls make that a completed project during the coming year."

EXPERIENCES WITH NEW TYPES OF INSULIN*

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The incidence of diabetes mellitus in the United States today is approximately one million.[1] In addition, the results of recent Diabetes Detection Surveys at Oxford, Massachusetts, and elsewhere[2] suggest another million unrecognized cases. Therefore, the problems of management become more and more important. In view of these facts, we feel that a review of the various types of insulins, plus a consideration of some of the newer combinations with which we have had experience for the past eight years might be timely.

Since amorphous insulin was first discovered in 1922 by Banting and Best[3] there have been several noteworthy advancements in the modification of this type of insulin. Amorphous insulin has become purified, zinc[4] has been added and this product is now available as regular crystalline insulin.[5] Regular and crystalline zinc insulins have their use mainly in the control of emergency situations such as diabetic acidosis, covering certain amounts of carbohydrates in infusion, during or following operations when dietary intake has been altered to a considerable degree, and occasionally in insulin allergy when a purer type of insulin is necessary. It affects the blood sugar within the first hour after injection and the peak of action is from three to six hours. There is, therefore, a strong initial activity which wanes and has completely disappeared in about eight to twelve hours.

In 1936, Hagedorn and co-workers[6] were experimenting with various combinations of regular insulins and protamines in an effort to prolong the action of insulin. They found that insulin mixed with protamine, a protein derived from fish sperm, produced a "depot" type of insulin which released insulin from the combination over a long period of time and thus produced an effect on the blood sugar lasting longer than 24 hours in the fasting individual. Some influence can be demonstrated from 4 to 8 hours after the initial injection, its peak of action is from 20 to 32 hours, and its intensity of action is moderately weak. This type of insulin, which we know as protamine zinc insulin, proved to be very useful in the mild and moderately severe diabetics, some of whom had had to have many injections of regular insulin throughout the 24 hour period.

In the treatment of diabetes mellitus with insulin, there appear to be several disadvantages to the use of regular and protamines zinc insulin. In some cases more than one daily injection is necessary. The problem of so-called "insulin paradox", or high or low levels of blood sugar in the same patient in short succession is encountered with large doses of protamine zinc insulin. Also, their action is not always correlated with the normal metabotic needs of the patient.

Because of the above deficiencies, further attempts have been made by investigators and clinicians to prolong the action of regular crystalline insulin and in one injection simulate the secretion of insulin in the normal individual.[7] The most successful efforts have resulted in globin zinc insulin[8] and various modifications and extemporaneous mixtures of regular and protamine zinc insulin.[9,10,11]

Let us consider why regular and protamine zinc insulin are capable of modification when mixed together. Protamine zinc insulin is a suspension of regular crystalline zinc insulin and protamine, with the latter in excess. When more regular insulin is added, there is created a modified protamine insulin which with a single injection produces a better control of the blood sugar than obtained by single injections of either regular or protamine zinc insulin. The most frequently used combination of this type consists of two parts of regular crystalline insulin mixed with one part of protamine zinc insulin, commonly referred to as 2:1 mixture. The onset of action on a blood sugar is detected in approximately 4 hours. The peak of action is from 10 to 14 hours and the intensity of action is intermediate between

*Read before the annual meeting of the Medical Society of Virginia at Roanoke, October 8-11, 1950.

regular and protamine zinc insulin. The difficulty associated with the use of this type of insulin is in the mixing, which has to be done either in an oversized bottle or by mixing a number of bottles at once, or using a syringe, each posing problems in that intelligence, aseptic technique and strict attention are necessary.[12]

Globin zinc insulin* is regular crystalline insulin combined with the heme-free portion of beef hemoglobin. It is also a "depot" type of insulin having a prolonged effect on the blood sugar. Its action on the blood sugar can be demonstrated 2 hours after injections, its peak of action is 8 hours and its intensity is intermediate between regular and 2:1 mixtures.

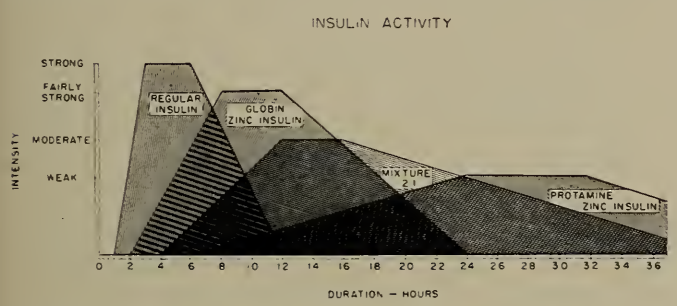

Diagram #1. The time action and intensity curves of regular, globin zinc, 2:1 mixture and protamine zinc insulin in the fasting individual.

Diagram No. 1 shows diagrammatically the time-action curves and intensities on the blood sugar following one injection of the insulins which we have discussed. It should be noted that this is in the fasting individual.

At the University of Virginia Hospital, newer types of insulin have been under investigation since 1943. This includes globin zinc insulin as well as various mixtures of regular and protamine. In addition, we have been able to study the clinical effects of the experimental NP-50** and NPH-50** type insulins.

NPH-50 insulin is a modified protamine zinc insulin with an effect upon the blood sugar similar to the 2:1 mixture. Its descriptive name is indicated that it is neutral ("N") in pH, contains 0.50 mgms. of protamine ("P") per 100 units of insulin and has been modified by Hagedorn ("H").[13,14,15,16]

The Diabetic Clinic of the University of Virginia Hospital has approximately 175 cases of all types of diabetes. Most of these patients are from rural area, have limited finances and often lack the intelligence necessary to follow a rigid dietary regime. However, we think that they represent a fair cross-section of the diabetic population encountered in a hospital serving largely a rural area. Furthermore, complications such as lability, peripheral neuritis, peripheral vascular disease, Kimmel-Stiel-Wilson's

AGE GROUPS OF 21 CASES

INSULIN DOSAGE	12-20	20-30	30-40	40-50	50-60	60+YRS.	
40-59	1	1*		1*	4	1	8
60-89	2		3		1	1	7
90+	1			3	1	1	6
	4	1	3	4	6	3	

* LESS THAN 40 U-VERY LABILE

Diagram #2. Illustrates the age group and insulin requirements of the 21 cases reported.

syndrone, coronary sclerosis, hypertension and chronic infections are frequent in this group. Many remain obese against repeated advice. We feel that it is significant that, in many instances, fair results have been obtained in spite of the above factors.

We have selected 21 of the more severe cases of diabetics in whom we have used 2:1 mixtures, NPH-50 or globin zinc insulin.

Diagram No. 2 shows the age groups and insulin requirements of these patients. It is to be pointed

21 SEVERE DIABETICS – 7 LABILE, 9 WITH COMPLICATIONS

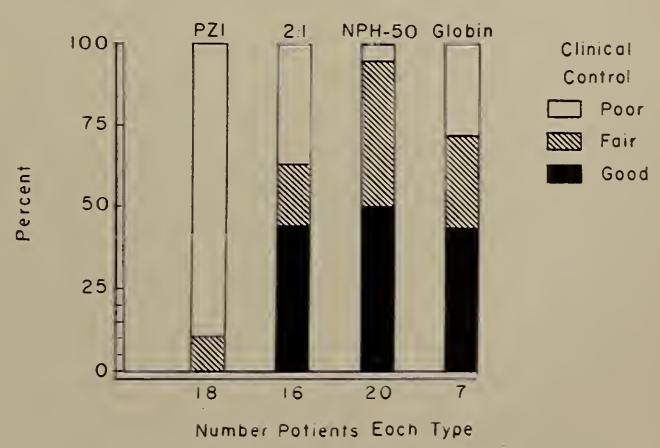

Diagram #3. Analysis of the clinical results obtained using protamine zinc, 2:1 mixture, NPH-50 and globin zinc insulin.

*Furnished by the courtesy of Dr. Donald Searle, of Burroughs, Wellcome and Company, Tuckahoe, N. Y.

**Furnished through the courtesy of Dr. Franklin B. Peck, of Eli Lily Company, Indianapolis, Ind.

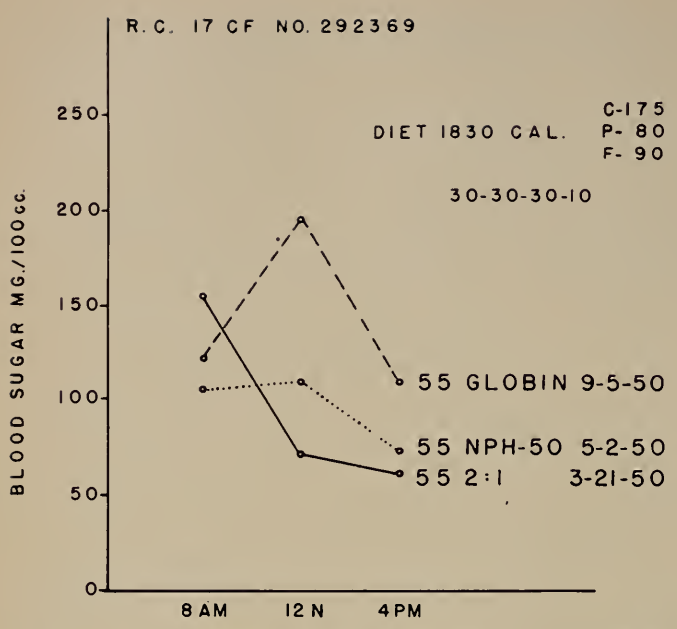

Chart #4. Blood sugar curves obtained on an uncomplicated diabetic who has been on equal doses of 2:1 mixture, NPH-50 and globin zinc insulin.

out that 13 of these cases require over 60 units of insulin daily and also 13 are 40 years or older.

Diagram No. 3 summarizes diagrammatically our clinical control with the patients on different insulins. It should be noted that for one reason or another, poor control was the rule when protamine zinc insulin was used alone, and good or fair control was not obtained until some modified insulin was used. In addition, the high incidence of lability or other complication should be noted.

From an analysis of these cases, it is apparent to us that clinical control can usually be obtained with

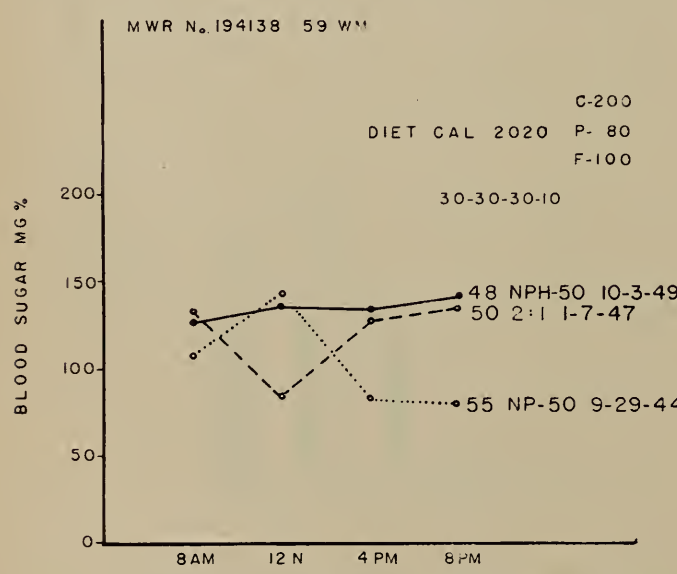

Chart #5. Illustrates the degree of control obtained with NPH-50 and 2:1 mixture.

2:1, NPH-50 or globin zinc insulin in doses up to 60 units a day if there are no serious complications.

Chart No. 4 demonstrates the usual response in an uncomplicated patient who has been on similar doses of 2:1 mixture, globin zinc or NPH-50 insulin. Although there is some variation in the blood sugars as illustrated, we feel that good control is evidenced in this case. Chart No. 5 reveals excellent clinical control of the blood sugar in an older man on comparable doses of 2:1 mixture, Np-50 and NPH-50 insulin.

When the problem of complications are present or the total insulin requirement is greater than 60 units a day, the carry-over of the insulin effect, which is characteristic of NPH-50 and 2:1 mixture, is very

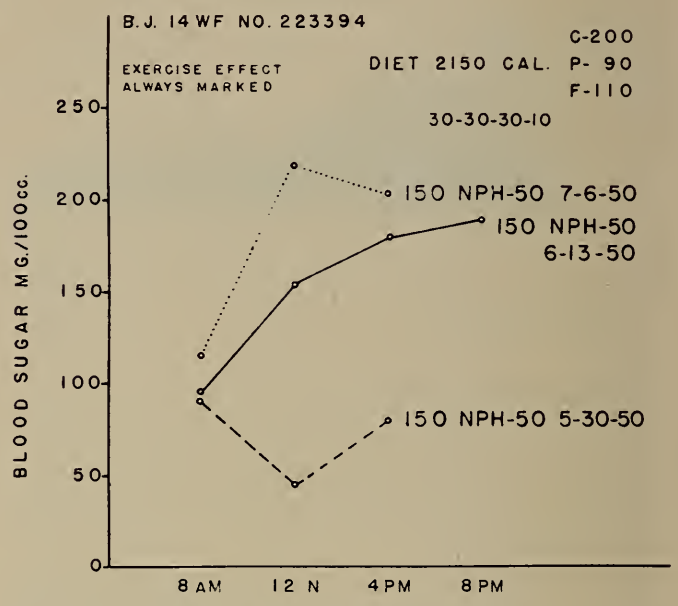

Chart #6. Curves obtained on a very labile diabetic who takes 150 units of NPH-50.

desirable. When lability is a particular factor, this carry-over effect is desirable regardless of insulin dosage. Chart No. 6 is indicative of the degree of control that can be obtained in a diabetic who is very labile and has marked exercise effect. The curve obtained on May 30, 1950, was obtained while the patient was undergoing her usual amount of physical activity.

This carry-over effect is frequently not sufficient in globin zinc insulin to give the necessary control of the blood sugar in cases which have complications; however, in individual cases we have used globin zinc insulin in doses up to 125 units a day with fair control.

Summary

A discussion of the various blood sugar responses to regular, protamine zinc insulin, globin and 2:1 mixtures has been given. In addition, we have presented the clinical results of 21 cases from the University of Virginia Hospital, treated with 2:1, NPH-50 or globin zinc insulin.

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Discussion

Dr. William R. Jordan, Richmond: I am sorry we don't have all "medical" doctors in Virginia at this meeting to hear this paper because, with the new insulin NPH being put on the market, it probably will be the insulin most commonly used for routine care of diabetes.

Dr. Edwards has not only presented a factual paper but has presented as well the slides to show just what has happened to the patients he has treated. In consideration of any diabetic control we must keep in mind that blood sugar is extremely variable and that a curve we get one day with one treatment cannot be duplicated often on succeeding days or on a day in a following week. The emotional disturbances that afflict us all, the exercise which Dr. Edwards demonstrated on the chart, and other factors, bring the blood sugar down and will interfere with our getting consistent curves.

My results have not been quite as good as his with the use of NPH 50 insulin but it is certainly a better insulin than any that we have tried in the control of a patient with one dose of one kind of insulin. I think the combinations of protamine and crystalline work better in general, though the NPH insulin certainly will enable us to handle a number of those patients very satisfactorily without resorting to two kinds of insulin or any type of mixture. Certainly this is something worth our noting because it will be on the market, as he mentioned, within a few months—at any rate, as soon as they accumulate a sufficient supply or backlog, and it will be the insulin that probably we will start almost all of our new diabetics on, and it is worth our finding out how it works. It can be used in combination with the quick acting insulin and there will be a number of severe diabetics who will have to have both kinds of insulin. A mild diabetic can be controlled with almost any type of treatment and severe diabetics can be controlled with almost no type of treatment. Some of the diabetic children who have grown up to adult life after 12 to 20 years of diabetes supposedly have degenerated in spite of good control. I don't think I have ever seen the ordinary child diabetic well controlled. Day in and day out, year after year, he has much too vacillating a blood sugar level to ever speak of it as controlled.

Questions and Answers as addressed to Dr. Edwards and Dr. Jordan.

Q. I would like to ask both of these gentlemen if they have used any divided doses of NPH and if so in what manner and with what results?

Q. I would like to ask Dr. Edwards if he has ever given patients supplementary diet?

Dr. Edwards: In answer to the first question: we have not used divided doses of NPH-50. The reason is the type of patient we have. With patients whom we frequently do not see but once every two or three weeks, it is dangerous to confuse them with complicated instructions and we don't have any Social Service workers who can go get them.

In answer to Dr. St. George Tucker, the routine diet is distributed as follows: 30/30/30/10 per cent. As you can see, we use a bedtime feeding. The reason for this is that frequently a great many of our patients are on a protamine insulin and need this protection at night. However, it may be possible with NPH-50 to use a more regular distributive diet. Routinely with large doses of globin zinc insulin, the diet should be so constructed as to prevent delayed afternoon shock.

In closing, we wish to thank Dr. William Jordan for discussing this paper.

THE COMPLICATIONS OF BRONCHIECTASIS

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The complications of bronchiectasis are often of a more serious nature than the disease itself. The physician so frequently sees a patient whose findings are such that they completely mask the underlying fundamental pathology in the lung. This leads to much confusion since these complications, when they exist in the thorax, are found in conditions other than bronchiectasis. The existence of a hydrothorax or pyothorax can mask a number of diseases which are responsible for such a condition. More often than not, when such a complication is relieved, an x-ray of the lung fields does not reveal enough detailed information to make a definite diagnosis. If the diagnosis of bronchiectasis could be made in patients prior to the onset of complications, these people could be saved incalculable days of sickness, misery, hospitalization and expense. The vital strain on their physical resources would be unnecessary. Life itself would, in many instances, not be put in jeopardy. An early diagnosis of bronchiectasis depends largely upon a high index of suspicion on the part of the physician. A scout film of the chest does not rule in or rule out bronchiectasis. It is with a few exceptions, at the most, suggestive only. The burden of proof rests squarely on the shoulders of the examining physician and is not to be shifted to those of the roentgenologist. Many a case of bronchiectasis has been tagged with the diagnosis of "a little pneumonia" and has been "cured" only to go on at a later date to recurrent episodes of "pneumonia" or to more serious complications which cause the patient much grief. It is not the fulminant bronchiectatic patient which eludes us. It is the incipient one who perhaps has "just a little" cough, and who has lived with his cough for such a time that he minimizes it to the questioning physician.

Bronchiectasis is now considered to be second in frequency to pulmonary tuberculosis in chronic lung diseases.[1,8,9] Many cases exist without disability of any kind. Not infrequently members of our armed services were found to have bronchiectasis after they had successfully completed the rigorous training prescribed.[1,2] However, there are all gradations of bronchiectasis and the more severe the pathology, the greater the incidence of complications.[3] In 400 cases of proven bronchiectasis at the Massachusetts General Hospital over a twelve year period, almost half (42 per cent) of the cases were found to have started in the first decade. Of those whose onset was in the first decade, only 9.4 per cent reached the age of 40. In a mortality rate compiled in non-surgically treated cases, 78 per cent of the dead died directly from bronchiectasis or its complications.[3]

Pneumonitis: It is to be expected that the majority of the complicating pathology will be intrathoracic.[4] Perry and King[3] found 24 per cent of their cases had recurrent attacks of atypical pneumonia. Recurrent attacks of pneumonitis associated with bronchiectasis are frequently interpreted as pneumonia or atypical pneumonia.[11] Ogilvie in a study of 68 bronchiectatics reported 36.8 per cent had atypical pneumonia.[10] It is not surprising that such basic pathology could initiate such response by the surrounding lung tissue under favorable circumstances. Stagnation of secretions forms a splendid culture medium for a multiplicity of pus-forming organisms.[1] Add to this the inability of the affected bronchus to rid itself of this accumulation, plus the ever present possibility of proximal blockage[5,6] and it is little wonder that the most common complication of bronchiectasis is an adjacent pneumonitis. It may be local and limited to the adjacent bronchi. However, acute bronchopneumonia may result from aspiration of the infected material or by direct extension.

Repeated Upper Respiratory Infections: Bronchiectatic patients are prone to develop repeated "colds" and upper respiratory infections. Once developed, the coryza frequently progresses to a "chest cold" which usually does not clear up within the generally accepted limits, but lingers as a cough, sometimes with low grade intermittent fever and a feeling of malaise. Too often these "minor" complaints are not given the consideration which they merit from the aspect of accurate diagnosis. A high index of suspicion on the part of the physician would help establish the presence or absence of ectatic pulmonary lesions, thereby in many instances giving the

patient the benefit of a positive diagnosis where bronchiectasis is present, so that treatment may be applied as a prophylactic or therapeutic measure.

Empyema: This complication was found to exist in 3.5 per cent of one series.[3] A bronchiectatic cavity adjacent to the pleura sets up a pleuritis and may easily rupture into the pleural cavity, thereby causing an empyema which may be general or localized. Less frequently a pyopneumothorax develops. In developing a pleural infection, the patient has entered into one of the more serious phases associated with bronchiectasis. He has been in the past subjected to repeated thoracenteses, drainages, and rib resections. Cavities continue to drain for long periods, close, only to require additional drainage. When the initiating locus is still functioning there develops a bronchopleural fistula. When a lesion thus formed becomes connected to the external surface of the body, either by spontaneous rupture or operative measures, a bronchopleurocutaneous fistula results. Such lesions are slow to heal and are debilitating to the patient. Such a patient presents quite a difficult problem in that by this time he is so depleted that definitive therapy cannot as a rule be utilized to bring about a cure of the underlying bronchiectatic disease.

Lung Abscess: A large spread of an infection from a bronchiectatic sac to lung tissue causes a severe reaction to be set up which can develop into a lung abscess.[3] In advanced stages, the bronchiectatic lung may contain multiple abscesses.[1] Interpretation of x-rays is handicapped if knowledge of the underlying pathology is not available.

Brain Abscess:[7] This occurs in about 2 per cent of bronchiectatics. The most frequent site is the right frontal lobe. An associated meningitis is not uncommon.[3]

Evans in 1931 reported 194 cases of intracranial suppuration of which 46 were metastatic abscesses. Twenty-two of the 46 followed a thoracic focus and 17 of these were diagnosed as bronchiectasis.[13] Charrier and Ferradou, in reviewing 260 cases of intracerebral abscesses in 1936, found 133 followed bronchiectasis, 55 empyema and 30 lung abscess.[13] The decrease in incidence of metastatic abscesses following pulmonary disease has in all probability been due to the prevalent usage of antibiotics.

Other Metastatic Abscesses: I have seen one instance of a large psoas abscess in a case of far advanced bronchiectasis.

Cor Pulmonale: When ectatic involvement of the lung is extensive, there is interference with the pulmonary circulation and failure of the right side of the heart appears. Perry and King report 9 deaths in a series of 400 cases of bronchiectasis due to right-sided heart failure, and in all cases the disease was extensive.[3]

Myocarditis: Saphir,[12] in a study of autopsies performed on 152 patients which were found to have bronchiectasis, reports that eight cases had an associated myocarditis as established by microscopic examination. However, the clinical diagnosis was made in only one case. Three of these died a sudden death. There was no cause found for the myocarditis other than the associated bronchiectasis.

Amyloid Disease: This occasionally occurs as it does in prolonged chronic suppurative diseases.

Psychologic Manifestations: Not to be omitted are the personality changes which are wrought as a result of foul breath and chronic cough with expectoration of foul smelling sputum. Especially in young people is this inclined to have its greatest effect. They feel that they are being shunned by their associates, which often times is true. Perry and King cite two cases of suicide in a series of 400 cases.

The following case report is interesting in that this man developed the majority of the complications of his disease, namely pneumonitis, empyema, bronchopleurocutaneous fistula, brain abscess and meningitis.

Case Report

C. E. G., age 64, white, gave a history of productive cough beginning in February, 1949, following which he had an x-ray of the chest that revealed "bronchopneumonia" and was treated for such. X-rays taken apparently at a later date revealed "increased bronchial markings". He was admitted to a hospital in another city as a welfare patient and found to have several pockets of encapsulated foul-smelling pus which were drained by rib resection on several occasions. One pocket was anterior and through this opening it was thought he developed a bronchopleurocutaneous fistula which existed until the time of resection. It was the opinion of the attending physicians that he also had a severe fibrothorax and needed further surgical intervention.

Accordingly, in June, 1949, he was transferred to a hospital in another city, where, as a patient on the surgical service, he developed a brain abscess and meningitis for which he was successfully treated and discharged on July 30, 1949.

He was subsequently entered into a convalescent hospital where I saw him for the first time in February, 1950. The constant drainage from his anterior wound required him to wear a dressing constantly. At times, on coughing, air could be detected coming from the sinus. He was coughing up about a glassful of purulent sputum daily, which occasionally was foul-smelling. The patient was quite anxious to be rid of his chronically draining sinus. In addition he was quite miserable because of his foul sputum which he described as "it stinks". Overall appraisal indicated that the patient could probably undergo operation. Accordingly, he was admitted to a local hospital for surgery. Bronchoscopy was performed and bronchograms were made showing advanced bronchiectasis in the left lower lobe and lingula, which were resected. The patient was discharged from the hospital on the sixteenth postoperative day, healed and able to perform his necessary duties.

SUMMARY

Bronchiectasis is the second most common chronic lung disease. Frequently the complication is seen as a therapeutic problem before the underlying pathology is suspected. Complications are largely responsible for the high mortality seen in untreated cases. A high index of suspicion on the part of all physicians would save bronchiectatic patients many days of misery and suffering.

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Find Estrogen Therapy Aids Acne Sufferers.

Treatment of some forms of acne with estrogens (female sex hormones) continues to give promising results, reports Dr. Irving Shapiro of Newark in the February *Archives of Dermatology and Syphilology.*

Dr. Shapiro, who made his preliminary study in March 1949, found remission of the disease in 60 per cent of his newest group of 25 patients. The estrogenic substance, in the form of a cream, is obtainable only on a doctor's prescription and is not to be confused with hormone creams sold over the counter.

"In 15 patients the results were excellent," he reported, adding that results were good in four cases, fair in three and that three of the patients could not tolerate the cream because of itching, flare-ups and cosmetic disagreeableness.

Ten of Dr. Shapiro's patients were men and 15 were women. Their ages ranged from 17 to 30 years. All patients at the beginning of treatment had the usual signs of an adolescent type of acne—oiliness, pimples and blackheads. The usual methods of treatment, including x-ray and ultraviolet ray treatment and dietary controls, which have been found to be successful in 80 per cent of common acne cases, had been tried without success on this group of patients, Dr. Shapiro said.

The cream was applied to locally affected areas once daily or divided into morning and evening applications. The men used it as after-shave cream and the women as a powder base.

Dr. Shapiro describes this method as "a promising new therapeutic approach to resistant acne vulgaris."

CLINICOPATHOLOGICAL REPORTS

From the Case Records of the Medical College of Virginia and the University of Virginia Hospitals.

Harry Walker, M.D., *Editor*
William Kay, M.D., *Associate Editor*

Case No.: B-68930

A 48 year old colored male was admitted to St. Philip Hospital because of marked dyspnea, hemoptysis and persistent edema. The patient had apparently been in good health until about six months before admission when he consulted a physician because of "indigestion". He was given some heart pills, but his condition did not improve and a month later he noted swelling of his ankles and abdomen. Approximately two months later he began to have rather marked dyspnea and consulted another physician.

Examination at this time (4 months before admission) revealed the following: Marked dyspnea, edema of the legs up to the knees, enlarged liver, ascites, dullness and rales in both lung bases, cardiac enlargement with the left border in the anterior axillary line and the right border 2½ cm. to the right of the sternum; a to-and-fro murmur over the entire precordium, pulse 100, blood pressure 240/100. He was given 0.2 mgm. of digoxin i.v. and 0.2 mgm. orally three times a day for two days, then a maintenance dose of 0.2 mgm. daily; intramuscular salyrgan-theophylline every other day for three doses; theobarb tablets, one twice a day; and a salt free diet with water as desired. Some improvement was noted on this regime initially, but the edema and dyspnea began to persist in spite of treatment.

On the night before admission the patient was seen again by his physician who found him "extremely dyspneic," coughing and expectorating large quantities of frothy amber fluid, complaining of slight pain over the precordium, with marked edema, rapid pulse and a blood pressure of 150/0. The physician administered 0.3 cc. of adrenalin, 0.75 mgm. of digoxin, 2 cc. of salyrgan-theophylline intramuscularly, morphine .016 mgm. and atropine .0004 mgm. The following morning the patient had not improved and his sputum was blood-tinged. He was then referred to the hospital.

The past history was essentially negative except for a history of syphilis 22 years earlier, inadequately treated.

On admission to the hospital the rectal temperature was 100° F., pulse 78, respirations 24, and blood pressure 150/0. The patient was well developed, well nourished, markedly dyspneic and orthopneic. He was coughing frequently and producing large quantities of frothy, blood-tinged, sputum. There was ptosis of both upper eyelids; the right pupil was irregular and did not react to light. There were opacities in both corneas obscuring the fundi. The neck veins were distended with the patient in a sitting position and there were visible venous pulsations. There were numerous rales throughout both lung fields with dullness and diminished breath sounds and diminished fremitus over the right lower chest posteriorly. The apex impulse was in the 5th and 6th left intercostal spaces in the anterior axillary line and the right border of cardiac dullness extended 2.5 cm. to the right of the sternum. There was a palpable thrill over the base of the heart and a harsh to-and-fro murmur was heard over the entire precordium, loudest at the base. One observer detected a possible pericardial friction rub in the third left intercostal space just to the left of the sternum. There were frequent extrasystoles. There was marked edema of the lower extremities extending up to and involving the genitalia and lower abdominal wall. The liver was palpable three inches below the right costal margin and there was moderate ascites. The deep and superficial reflexes were normal. No pathologic reflexes were noted.

Laboratory data: Urinalysis, specific gravity 1.020, albumin 1+ and otherwise negative. RBC 4,200,000, hemoglobin 13.6 grams, WBC 10,000, 72 polys., 1 eosin, and 27 lymphs. CO_2 48.5 vol. % (22 mEq/liter), NPN 40 mgm.%, sugar 102 mgm.%, serum chlorides under oil 538 mgm.% (92 mEq/liter), prothrombin time 19 sec., control 15 sec., concentration 43%. The serology was posi-

tive in a titer of 1-128. An x-ray of the chest showed "moderate enlargement of the heart—cardiothoracic ratio 55%,—aortic arch 8.5 cm.—arteriosclerotic aortic know—pleural effusion on the right to the 9th rib level posteriorly". An electrocardiogram showed a rate of 110, a P.R. interval of 0.12 and a Q.S. of 0.08, inverted T waves in Leads I, II, V_4 and V_5.

Shortly after admission thoracentesis of the right pleural cavity yielded 125 cc. of serosanguineous fluid which contained 1.0 gram% protein, 1,040 cells with 37 polys., 29 lymphs and 34 endothelials. The patient was given oxygen first by nasal catheter, later by tent, intravenous salyrgan daily, digitoxin 0.2 mgm. daily, crysticillin, 1 cc. every 12 hours, and luminal and chloral hydrate for sedation and a salt free diet.

The patient appeared to improve somewhat with oxygen and thoracentensis, which was repeated twice during the patient's hospital stay, 750 cc. of similar fluid being obtained at the second and 325 cc. at the third aspiration. He remained essentially afebrile with the pulse ranging around 100 per minute and respirations approximately 25-30 per minute. The blood pressure varied from 150-200 systolic and 0-50 diastolic. The intake and output was charted as follows: Second hospital day intake 900 cc., urine 2,375 cc.; fourth hospital day intake 2,800 cc., urine 1,200 cc. His general condition gradually became worse and the patient expired on the eighth hospital day.

Additional laboratory studies: One blood culture was negative. Repeated smears and cultures of the sputum and pleural fluid were negative for organisms of pathologic significance, including acid fast bacilli. One day following admission the serum sodium was 132 mEq/liter and the serum potassium 3.9 mEq/liter. The serum calcium on the same day was 14.5 mgm.%.

DISCUSSION BY DR. ARMISTEAD WILLIAMS*

This case, which at first glance may seem to be a rather simple one of congestive failure from syphilitic aortic valvular disease, is actually one in which all of the possible eventualities of syphilitic cardiovascular disease must be considered regardless of their rarity. There are several reasons for this. First, the murmur is described as being to-and-fro, a phase which, though often used in the texts, from that of Sir Thomas Lewis to those of the present day, allows entirely too great a latitude in imagination. Such a description could mean that there is but a single murmur, that is, a continuous one.

Though it is certainly not stated, it could imply that there is a systolic and a diastolic murmur, both having the same pitch or character. Obviously, the difference in underlying pathology would be immense.

Another reason for considering the obscure possibilities is that though one naturally expects syphilitic aortic diseases to result eventually in signs and symptoms of left-sided failure, this man during the first three months of his illness had classical findings of right ventricular failure. His initial complaint was of indigestion suggestive of liver engorgement, then ankle edema and ascites. We do not expect to find ascites of any appreciable degree in disorders of the left ventricle until after a rather marked siege of dyspnea. Also, we would expect failure from left ventricular disorders to show at least some degree of remission under treatment.

Amongst nonsyphilitic possibilities we might first consider myocarditis in addition to aortic insufficiency. We are now recognizing such a diagnosis with greater and greater frequency, and during the war quite a large group of patients with this disorder was reported. These patients primarily show evidence of total heart failure with edema and hepatomegaly without obvious reason, or rather obvious etiology, and the heart examination often shows only a gallop rhythm and enlargement. Such are the findings, for instance, in a young person with rheumatic fever. In them an enlarged liver may be the most important guide to active rheumatic carditis. The murmurs heard are by no means characteristic and one may only hear a grade 2 systolic murmur over the precordium. Aside from rheumatic fever, myocarditis may be caused by a virus infection, drug sensitivity, and in rare instances by syphilis itself. In general, the course of myocarditis is down hill without notable response to the usual medication. I would not accept it as a diagnosis in this case primarily because it is a diagnosis of exclusion, and dyspnea is almost always present to some extent from the start. There are some patients with predominant signs of right-sided failure who complain that exertion causes a marked sensation of fullness in the right upper quadrant apparently from liver engorge-

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ment, but there is still usually some degree of true dyspnea.

The picture of constrictive pericarditis is quite similar to that presented by this man during the first three months of his illness, that is, the gradual onset of more or less silent edema and ascites with relatively little dyspnea. The dyspnea may become progressively worse, but I would not expect the disorder to result finally in the degree of dyspnea and orthopnea which this man had. Opposed to such a diagnosis also is the heart size which characteristically tends to be small. The pulse pressure is reduced, and we would like to see calcium deposits about the heart and a positive tuberculin test. Of course one would not expect any murmurs.

One of the most attractive possibilities in the patient with a story such as presented by this man is tricuspid disease, either insufficiency or stenosis. This is not a rare disorder, though it is infrequently diagnosed clinically. It is most often seen in severe rheumatic heart disease and is almost always accompanied by mitral stenosis. The signs of tricuspid insufficiency are marked edema and ascites, a large pulsating liver and distended neck veins. The pulsation of the neck veins is systolic in time in insufficiency and in tricuspid stenosis there is a presystolic pulsation from an hypertrophied right auricle. I shall say more about this disorder later.

Amongst the syphilitic lesions the most common is aortic insufficiency and dilatation of the aorta from destruction of the media resulting in loss of elasticity, the latter accounting for the frequently heard systolic murmur. As I have pointed out already, this pathology results in failure of the left ventricle, pulmonary engorgement, then failure of the right ventricle with development of edema and ascites. We see a great number of patients in the cardiac clinic with such a disorder and many present a considerable degree of edema, but all of those whom I have seen have had dyspnea as their chief discomfort. Also, in spite of the fact that once congestive failure occurs in these patients, the life expectancy is reduced to from six months to two years, almost all will show at least brief periods of remission in their symptoms. Furthermore, the murmurs of aortic insufficiency with aortitis are usually not so loud as to cause a thrill, but we do occasionally run across a patient with quite loud murmurs accompanied by a thrill and who at post mortem shows no complicating disorders.

There are several rare complications of luetic aortic disease such as a ruptured leaflet, subacute bacterial endocarditis, and an everted cusp. However, these would tend only to exaggerate the above symptoms and signs. A gumma is a possibility which I would only mention since it would be extremely hard for me to place it just right.

Finally, there are two disorders which I would like to go into in some detail. The first of these is rupture of the aortic aneurysm into the pulmonary artery which was so well described by Dr. W. B. Porter in the 1942 Volume of the *American Heart Journal.* He collected three cases of this disorder from the wards of the Medical College of Virginia Hospital and in one was able to establish the diagnosis ante mortem. In this condition there is a loud continuous murmur in the third interspace just to the left of the sternum slightly below the area of maximal intensity of the murmur of a patent ductus. One would expect the systolic element of this murmur to be considerably accentuated. In addition, there would be no Austin Flint murmur since the regurgitant blood would flow into the pulmonary artery rather than the left ventricle where it would come in contact with the mitral valve. Of some importance would be the direction of the blood flow into the pulmonary artery. If the stream were directed peripherally there would be engorgement of the pulmonary circuit even though that circuit is remarkably expansile. Dyspnea and orthopnea would then be severe. If, however, the stream were directed towards the right ventricle, it is conceivable that right ventricular failure would result from the high head of pressure acting against the flow of blood through the pulmonary valves. The clinical course as expected from the cases reported would be remarkable first in the abrupt onset with severe dyspnea with or without severe substernal pain. The patient then would follow a relentless down hill course with severe dyspnea and evidence of right-sided failure.

The other possibility which I would like to consider is an aneurysm of the sinus of valsalva. As you know, there are three such sinuses, one behind each of the aortic cusps and aneurysms arising therefrom may be of congenital origin or more commonly syphilitic. These aneurysms are somewhat more frequent in the right sinus and, being primarily intracardiac, may take one of several courses, that is,

they may rupture into the right atrium, the right ventricle, the pericardium, the pulmonary artery, externally, or may cause death by burrowing down the interventricular septum to cause complete heart block. I would like to propose the possibility of an aneurysm arising from the right sinus valsalva descending into the right ventricle where it would distort the tricuspid valve, causing either stenosis or insufficiency. Such an aneurysm as this is nicely illustrated in Dr. Taussig's text on congenital heart disease. We then would expect the signs and symptoms of tricuspid disease that I have mentioned before, marked edema, hepatomegaly and ascites. Finally, rupture into the right ventricle would account for the final three months of dyspnea and orthopnea. The murmur heard would again be a loud continuous murmur with preponderance of the systolic component. The blood pressure findings both here and in rupture of the aneurysm into the pulmonary artery would be similar to those in the case at hand, that is, diastolic collapse of the peripheral arteries. The X-ray picture in both instances would show marked congestion of the lung fields with enlargement of the right side of the heart.

The final episode consisting primarily of hemoptysis in addition to the dyspnea could quite well be on the basis of congestive failure alone with pulmonary engorgement. However, the serosanguineous fluid is disturbing and I do not believe would result from simple failure. Tuberculosis of the lung and pleura is the most common cause of such a pleural effusion, but we have no other reason to suspect tuberculosis except the purulent sputum which I suppose could have been tuberculosis or perhaps pneumonia. A pulmonary infarct would be a more consistent possibility and it often results in a blood tinged pleural fluid. It is difficult to account for the report of one gram of protein per cent in the pleural fluid especially in view of the cellular content.

In so far as treatment is concerned the dosage of digoxin given initially is on the light side, but we cannot be certain of just what heart preparation was being taken already. On the day prior to admission, the treatment was rather heroic and indicates the severity of the patient's illness. He was given adrenalin, salyrgan, morphine and digoxin. I do not believe that adrenalin should be used here. Perhaps it was life saving for the moment, but generally such patients do much better if given morphine and are allowed to become quiet. If the patient is already digitalized, it might be well, in addition to morphine, to give 10 cc. of aminophylline intravenously over ten to fifteen minutes, for it will help to keep one out of mischief and at the same time satisfy the family that everything is being done that is necessary. After admission, the patient was given penicillin presumably because of his purulent sputum, but in a patient with luetic aortic disease in failure, we should have good indication for the use of penicillin because of the ever present danger of causing a therapeutic paradox. Salyrgan was given as urged by Dr. Gold, but I wonder if many patients whom we feel need daily mercurials aren't in a hopeless state anyway.

In summarizing, there seems to be no happy medium in this case; that is, if I must venture a diagnosis, my choice seems to lie between the run-of-the mine diagnosis of aortic insufficiency with dilatation of the aorta, which on the basis of the data given is most unattractive, and the rare somewhat fanciful possibilities, such as rupture of an aneurysm into the pulmonary artery or aneurysm of the right sinus of valsalva distorting the tricuspid valve and rupturing into the right ventricle. I am unhappy about both of these because the signs either weren't there or were not fully described. However, if I must make a choice, I lean toward rupture of a valsalva aneurysm with rupture of the aneurysm into the pulmonary artery as second choice. The final episode I would attribute to the pulmonary infarction.

HOSPITAL DIAGNOSIS: Luetic aortitis with aneurysm rupturing in the pulmonary artery.

DR. WILLIAMS' DIAGNOSIS: (1) Rupture of aortic aneurysm (luetic) into pulmonary artery? (2) Rupture of valsalva aneurysm (luetic) into right ventricular?

PATHOLOGY REPORT: DR. THOMAS M. SCOTTI*

The heart weighed approximately 800 grams. The pericardium was adherent all over the heart and it was not possible to separate it from the myocardium without stripping off some of the underlying muscle. It measured from 0.1 to 0.8 cm. in thickness. The thickest portions were hard and felt as if partially calcified. There appeared to be no constriction of the major vessels by the adherent pericardium. The life ventricle was hypertrophied measuring up to 1.8

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cm. in thickness and its mural endocardium was hyalinized. The endocardium of both atria was thick and hyalinized. The mitral valve was only slightly thickened but not distorted. There was slight thickening of the aortic valve leaflets. The commissure between the left and right leaflets showed 1.2 cm. separation. There was minimal separation between the left valve cusp and the posterior one. The aortic ring measured 9 cm. in circumference.

The aorta itself showed considerable scarring and puckering of the intima along with pearly white and yellow plaques. There were two small sacculations, about 5 mm. in depth, above the right cusp. The coronary artery orifices, particularly the right, were impinged upon somewhat by pearly white plaques. There was a saccular aneurysm, 1 cm. above the left aortic valve leaflet, just above the sinus of valsalva. The orifice was 2 cm. in diameter and the depth of the aneurysm, 4 cm. It bulged against the left atrium and the portion of the latter in contact with the aneurysm was soft, necrotic and mottled, reddish-brown. In the upper portion of this area there was an irregular tear, measuring 0.4 x 0.7 cm. producing a fistula between the left atrium and the aortic aneurysm. In the lumen of the aneurysm there was a lamellated thrombus. The coronary arteries and abdominal aorta showed a few atheromatous plaques.

Histologically the thoracic aorta showed chronic aortitis consistent with luetic type. Section of the pericardium revealed organized, fibrinous pericarditis and the cause was not determined.

The lungs disclosed extensive bilateral bronchopneumonia (left weighed 1,130 gms., right, 1,410 gms.). There was a large hemorrhagic infarct of the right lower lobe. The right pleural cavity contained 1,200 cc. of blood tinged fluid.

Other findings were: Chronic passive congestion of the liver, edema of both legs and a 2 cm. round scar on dorsum of the glans penis.

Anatomic Diagnosis:

1. Aneurysm (luetic) of ascending aorta (just above left sinus of valsalva) with rupture into left atrium.
2. Chronic, adhesive pericarditis.
3. Bilateral bronchopneumonia.
4. Hemorrhagic infarct of lung, right lower lobe.
5. Chronic passive congestion of liver.
6. Edema of both legs.

Chloramphenicol to Treat Intestinal Infection.

Chloramphenicol, an antibiotic, is being used with some success by two New York doctors in the management of Salmonella infection, an acute intestinal infection, according to an article in the March 17 *J.A.M.A.* Drs. H. A. Weiner of Staten Island and John B. Liebler of Brooklyn report that although the antibiotic does not cure the infection, it does have a preventive or arresting effect on the growth of the bacteria, thus permitting the body to muster defenses against the infection.

The complex group of bacteria causing the infection are about 200 in number, the doctors said, pointing out that one or more types of Salmonella bacteria may be present in any one particular infection. The authors say that all of the 200 different strains are potentially dangerous to both human beings and animals. Age, resistance of the patient and to some extent the specific strain of bacteria determine the nature of the individual infection.

Distribution of Salmonella infection is known to be world wide. Some persons, while not afflicted with acute manifestation of the disease, harbor the germs in their bodies and act as carriers or distributors of the infection, it was pointed out. In addition, over 40 animals, including fowl and lower mammals, have been found to carry the organisms. The doctors said the greatest reservoirs of infection in the United States are fowl and swine and that the bacteria have frequently been found in water, sewage, eggs, egg powder and a wide variety of food products.

PUBLIC HEALTH

L. J. ROPER, M.D.
State Health Commissioner.

The Physician and Industrial Hygiene

The services of the Bureau of Industrial Hygiene of the State Department of Health should be of particular interest to both full-time industrial physicians serving the larger manufacturers and also to private practitioners. Since its inception in 1936, the Bureau of Industrial Hygiene has assisted physicians with matters directly or indirectly related to the health and welfare of the industrial worker. The natural implications of such a program give some clue as to the enormous coverage of subject material involved. Typical services afforded by the Bureau include evaluations of atmospheric concentrations and bodily absorption of industrial dusts, fumes and gases by chemical and physical laboratory tests, ventilation conditions and requirements, specific health hazards in plants (surveys) temperature, humidity, lighting, and plant sanitation conditions, over-crowding, physical examinations, medical and nursing services, workmen's compensation, hours of labor, mental health, and personal hygiene. A full complement of current industrial health literature is maintained and made available.

For the most part, the Bureau of Industrial Hygiene is concerned with the chemical and engineering applications to industrial health maintenance. The laboratory staff, for example, makes frequent analyses of biological materials to ascertain the degree of poisoning of exposed workers, of dusts to determine percentage of free silica and particle size, and of industrial solvents for individual constituents. Highly specialized instruments are available for use in air sampling and measurement, dust counting, toxic gas determination, radiation monitoring, noise-level estimation, and illumination measurement. The proper designing of local exhaust systems to control the evolution of toxic fumes, gases and vapors, is the responsibility of the industrial hygiene engineer.

A most promising development in recent years has been the realization on the part of physicians that the services of Industrial Hygiene can be directly utilized whenever the occupational disease case makes its appearance. The exact advantages to be gained by such collaboration have not always been too clearly defined in the past. For those general practitioners who have entered the field of industrial medicine, however, there is a deep conviction that the discovery and evaluation of etiological agents in diseases incident to occupations is greatly dependent on a knowledge of factors not ordinarily present with the usual infectious-type case of private practice. In the determination of causal relationship, for instance, a physician is required to:

(1) Obtain highly detailed information on the present occupation and past occupational history of the worker.

(2) Make a thorough investigation and evaluation of environmental conditions under which the employee operates, e.g., heat, cold, illumination, noise, moisture, and ventilation.

(3) Investigate and toxicologically evaluate materials employed or manufactured, e.g., dust, fumes, gases, and chemicals.

In general the responsible physician must obtain additional environmental information above and beyond basic clinical evidence in order to more closely define the composite origin and characteristics of many occupational diseases. The inclusion of chemical and engineering considerations in the establishment of etiology warrants serious study. A further argument in support of the need for additional knowledge of modern toxic agents and related histories of exposure is the fact that medical syndromes of most occupational diseases do not suggest definite relationships with any specific occupation. For example, the bladder cancers caused by B-Napthalamine and benzedine, the intermediate substances in the production of aniline dyes, differ in no way from epitheliomas of unknown etiology.[1] Cystoscopic and microscopic examinations show no differences between the two types. The only positive means for a differential diagnosis and establishment of causal relationship is by relating current symptomatology to past and present environmental conditions. Cases of carbon tetrachloride poisoning often present similar difficulties; the clinical evidence, e.g., nephrosis, toxic hepatitis, presents nothing which is pathognomonic of that solvent. Even with cases of "aplas-

tic anemia", so often encountered in industry, we still find diagnostic procedure and laboratory technique unable to differentiate between "aplastic anemias" of idiopathic origin, and "aplastic anemias" due to benzol poisoning. In all such similar instances the physician is obliged to leave his clinical findings and search elsewhere.

The most critical factor in the reduction of occupational disease, especially from the preventive medicine aspect, is the discovery of etiological factors involved, so that subsequent measures may be taken for their speedy removal. Effective evaluation and elimination of hazardous exposures in modern industry often involve detailed investigation into plant health conditions for concentrations of solvent vapors, metal fumes, dust and chemicals. The frequent need for supportive engineering and chemical knowledge, as they specifically relate to environmental health, becomes immediately apparent, whether the physician is in the process of differentiating between actual and alleged occupational disease, or is faced with the problem of making plant surveys to ascertain and remedy hazardous operations. It is likewise of equal importance that practicing physicians in Virginia be aware that the industrial health problems as here related, fall distinctly within the scope and interest of the industrial hygiene program.

Today, more than ever before, we find the industrialist awakening to the demands for employee health protection. The tendency is bound to continue and develop more fully. Medical and engineering means for the control of occupational disease is becoming ever more specialized and involved as the prolific advent of newer hazardous materials on the market continues. This throws a heavy responsibility on physicians, but it offers them also an unusual opportunity in preventive medicine. To the many practitioners who must meet this challenge, and for those interested in a more positively coordinated contribution to the improved physical health and welfare of the individual worker, the Bureau of Industrial Hygiene of the State Department of Health cordially extends an invitation to make use of its available services.

1. Mayers, M. R., Some Diagnostic Problems in Occupational Disease; New York State Department of Labor Monthly Review **25**, No. 12, July, 1946.

The Morbidity Report of the Bureau of Communicable Disease Control

	Feb. 1951	Feb. 1950	Jan.-Feb. 1951	Jan.-Feb. 1950
Brucellosis	2	4	11	6
Diarrhea and Dysentery	179	393	442	786
Diphtheria	18	22	32	45
Measles	941	157	1,483	280
Meningitis (Epidemic)	16	14	30	23
Poliomyelitis	3	3	11	9
Rocky Mountain Spotted Fever	0	0	0	0
Scarlet Fever	168	114	318	247
Tularemia	4	5	16	14
Typhoid and paratyphoid	3	5	13	11

New Books.

The following are some of the new books in the Tompkins-McCaw Library of the Medical College of Virginia, Richmond, and are available to our readers under usual library rules:

Army medical library—The pituitary-adreno-cortical function.

Association for research in nervous and mental diseases—Military neuropsychiatry.

Bean, ed.—Osler: aphorisms from his bedside teachings and writings.

Block & Bolling—The amino acid composition of proteins and foods. 2nd ed.

Bleuler—Dementia praecox, or the group of schizophrenias.

Christman—Pituitary-adrenal function.

Clendening lectures on history and philosophy of medicine. First series, parts I & II.

Fischer—Principles of general psychopathology.

Frear—Chemistry of insecticides, fungicides and herbicides. 2nd ed.

Gibson—Physician to the world. Life of Gen. William C. Gorgas.

Greenberg—Amino acids and proteins.

Josiah Macy, Jr. Foundation—Transactions 1st conference, 1949. Renal function.

Transactions 3rd conference, 1950. Blood clotting and allied problems.

Transactions 4th conference, 1949. Biological antioxidants.

Transactions 2nd conference, 1950. Metabolic interrelations.

Transactions special meeting, 1950. Suppl. II. Symposium on the healthy personality.

Kauffmann—The differentiation of escherichia and klebsiella types.

Lederle—Aureomycin; a review of the clinical literature.

Shattuck—Diseases of the tropics.

Sweet—Thoracic surgery.

MENTAL HEALTH

JOSEPH E. BARRETT, M .D.,
Commissioner, Department of Mental Hygiene and Hospitals.

Treatment of the Emotionally Disturbed Child*

The recent trend towards the very extensive use of the convulsive therapies and of surgical procedures in psychiatry has tended to divert medical interest from the role which psychotherapy fulfills, especially in the treatment of emotional disturbances of children.

Many years of trial and experimentation have brought the psychotherapeutic processes to their present stage of development. At the same time, a considerable amount of misunderstanding of psychotherapy has developed, both among the medical profession and among the laity. One error is the notion that it is a process which can be accomplished quickly. I know of no field of medicine in which results are achieved more slowly than in mental hygiene, with the possible exception of orthopedics. Human attitudes are built up over long periods of time. We cannot expect to change them at all rapidly. This is true even of children. A child of ten, for example, may often have maladjustments which have been building up during the entire ten years of his life. Moreover, those were the most critical years and the ones in which his personality was most malleable. A change in his motivations, mechanisms and attitudes from a poor adjustment to a good one cannot take place rapidly. It is often necessary for us to work with a case for periods of many months, and sometimes even years, before we can straighten out the difficulties caused by the much longer period of bad parental or other environmental influences.

In dealing with the maladjustments of a child we have two factors to consider. One is the child's personality; the other is his environment. When we speak of the environment we mean the persons who surround the children, and more especially the parents and other members of the family. In the child guidance center it has been found necessary to work both with a child and with his parents. This task is divided among different members of the staff because experience has shown that it is not possible for a single therapist to deal adequately with two members of the same family. Jealousies between the members of the family, feelings which are at the basis of the whole difficulty, are far too often increased rather than helped when they have to share the same therapist. The usual plan of organization, in which a child guidance clinic has a psychiatrist, a psychologist and psychiatric social workers on its professional staff makes this division of effort possible.

A second misunderstanding with regard to psychotherapy is the notion that it is an attempt to tell people (either children or parents) what to do. Such is certainly not the case. The first essential step in the process of treatment, after a good relationship has been developed with the therapist, consists of helping the individual who is being treated to understand himself or herself. In the case of an adult, this is brought about by allowing the patient to talk and eventually interpreting to him the meaning and significance of what he has said. We can never really give a person insight into his mental mechanisms; we can only help him to develop it for himself. The next step is to re-educate the patient to a better, and less neurotic, way of solving his or her problems. We are always trying to lead the person toward help and never to drive him there by our admonitions. Therapeutic work with the parents of a child may be carried on upon a simple level of helping them better to understand their children and giving information in regard to handling them. Much more frequently, however, we recognize that the difficulties with the child are a reflection of the parent's own problems, so that we must try to help him to reach an understanding and a solution of these problems in order that he may become a happier and better adjusted person, one who will be able to give to the child the love and security which is needed.

Psychotherapeutic work with children, especially with younger children, requires some modification of this scheme. The child does not use words in the way that an adult does. Instead of talking with the child one plays with him. It is through this medium

*The second article in a series concerning the emotionally disturbed child, prepared by Dr. Gilbert J. Rich, Psychiatrist-Director, Roanoke, Virginia, Guidance Center.

of play that the younger child expresses his feelings and works them out upon the therapist. Treatment of children, like that of their parents, is indirect in the sense that it is concerned with the deeper conflicts which cause emotional disturbance rather than with the superficial behavior which causes the referral of a child to a guidance clinic. This is merely an application of the modern medical principle that treatment should be directed toward correcting causative factors and not toward removing symptoms. The following of such a principle may often mean that the complaint for which a child is referred is never mentioned in the process of therapy, nor is that process directed primarily toward its removal. Least of all, is the child lectured or scolded about anything that he does either during the therapy period or outside.

Some children, of course, do not do well in this type of individual treatment. Some of them can be helped by group therapy. This is the newest development in the field of child guidance. It aims to utilize therapeutically the emotional forces and relationships that exist between children within a group who know each other quite well. The therapist sets the stage for the activity of the group, but actually plays a passive role and does not act as its leader.

The treatment of a child's emotional problems, whether it involves work with the child or with the parent or both, aims primarily to promote a normal and mentally healthy development of the life of the family, thereby acting as a preventive measure against the occurrence of emotional breakdown or frank mental illness.

BOOK ANNOUNCEMENTS

The Science of Health. By FLORENCE L. MEREDITH, B.Sc., M.D., Fellow of the American Medical, American Public Health, and American Psychiatric Associations. Second Edition. The Blakiston Company, Philadelphia. 1951. xiii-452 pages. Cloth. Price $3.75.

Paul Ehrlich. By MARTHA MARQUARDT. With an Introduction by Sir Henry Dale. Henry Schuman, New York. 1951. xx-255 pages. Cloth. Price $3.50.

Abstract of "The Audiology Clinic". Published in the "Acta Oto-Laryngologica" Supplementum LXXXIX.

"The Audiology Clinic" by Dr. Moe Bergman is published by the Acta Otolaryngologica. It is sponsored by The Audiology Foundation which is a Non-Profit Corporation, directed by able and well qualified men, most of whom are physicians representing many of the leading medical schools of the country.

This monograph contains suggestion of ways and means of solving the major problems of organizing an audiology clinic, in which the program of auditory rehabilitation includes a co-operative approach by experts from many different professional areas. It is intended as a guide for the handling of acoustically handicapped adults, giving what facilities are now available and where they are located.

It would be most useful to anyone who is interested in starting an audiology clinic in a large city or at a medical college. All necessary details are available here for study and consideration.

Copies of "The Audiology Clinic" may be obtained by writing The Audiology Foundation, 1104 South Wabash Avenue, Chicago 5, Illinois, price $1.00.

E. D. V.

MEDICAL SOCIETY OF VIRGINIA

Auditor's Report
October 1, 1949—September 30, 1950

THE OFFICERS AND COUNCILORS
MEDICAL SOCIETY OF VIRGINIA
RICHMOND, VIRGINIA
GENTLEMEN:

We have made an examination of the books of the MEDICAL SOCIETY OF VIRGINIA, Richmond, Virginia, for the fiscal year ended September 30, 1950, and have prepared therefrom the three accompanying exhibits. The scope of the examination is explained in the following comments.

The assets and liabilities of the Society at September 30, 1950, are stated in the Balance Sheet, Exhibit "A", and the income and expenses for the fiscal year ended at that date, on the cash receipts and disbursements basis, are shown in Exhibit "B".

Yours very truly,
MITCHELL, WIGGINS & SMITH
By R. E. WIGGINS
Certified Public Accountant.

Financial Condition

The financial condition of the Society at September 30, 1950, is shown in the Balance Sheet, Exhibit "A", a summary of which is given in comparison with that at September 30, 1949, as follows:

ASSETS	9-30-50	9-30-49
Cash	$47,039.65	$44,256.06
Accounts Receivable	2,249.09	2,104.35
Investments—United States Bonds	47,509.94	48,490.44
TOTAL	$96,798.68	$94,850.85
LIABILITIES AND SURPLUS		
Liabilities:		
Accounts Payable	$ 1,593.18	$ 1,611.26
Surplus:		
General Fund	86,044.64	82,826.62
Special Legislative Fund	9,160.86	10,412.97
TOTAL	$96,798.68	$94,850.85

Operations

The income and expenses of the General Fund for the fiscal year ended September 30, 1950, are shown in Exhibit "B", prepared on the cash receipts and disbursements basis. A summary of income and expenses in comparison with those of the preceding year are presented as follows:

	FISCAL YEAR ENDED	
INCOME	9-30-50	9-30-49
Membership Dues	$43,499.48	$41,143.81
Medical Monthly Publication	16,266.13	15,508.40
Other Income	671.18	3,325.56
TOTAL	$60,436.79	$59,977.77
EXPENSES		
Executive Office	$37,512.04	$25,935.62
Public Relations Department	20,484.55	21,664.16
TOTAL	$57,996.59	$47,599.78
SURPLUS INCOME FOR THE YEAR	$ 2,440.20	$12,377.99

The receipts and disbursements of the Legislative Committee's Special Fund are shown in Exhibit "C".

Scope of Examination

CASH — $47,039.65

All recorded cash receipts were accounted for by deposits in the banks, and disbursements were supported by properly signed and endorsed paid checks. Balances on deposit at September 30, 1950, were confirmed by direct confirmation with the banks as follows:

GENERAL FUND	
First and Merchants National Bank—Checking Account	$32,295.98
First and Merchants National Bank—Savings Account	6,520.81
The Bank of Virginia—Savings Account	7,129.07
Southern Bank and Trust Company—Savings Account	971.93
TOTAL	$46,917.79
LEGISLATIVE COMMITTEE—SPECIAL FUND	
First and Merchants National Bank—Savings Account	121.86
TOTAL CASH	$47,039.65

INVESTMENTS — $47,509.94

Investments, consisting of United States Savings Bonds and United States Treasury Bonds, were verified by inspection of the securities held in the safe deposit box at First and Merchants National Bank, Richmond, Virginia. The Savings Bonds are shown in the Balance Sheet at their current redemption value and the Treasury Bonds purchased in March 1948 are shown at cost.

IN GENERAL

Insurance in force at September 30, 1950, determined from policies on file, was as listed below:

Office Furniture and Fixtures	$1,000.00
Walter Reed House, Belroi, Virginia	$2,000.00
STOCK OF BOOKS:	
Fire, Lightning, Windstorm	$1,000.00
Sprinkler Leakage	$1,000.00
FIDELITY BONDS:	
Executive Secretary-Treasurer	$5,000.00
Secretary	$5,000.00

Balance Sheet—September 30, 1950
Exhibit "A"
ASSETS

CASH		
General Fund	$46,917.79	
Special Fund—Legislative Committee	121.86	$47,039.65

Due From Members (Estimated Collectible Value)		
1950 Dues—50 @ $25.00		1,250.00
Accounts Receivable		
Virginia Medical Monthly for Advertising		999.09
Investments		
United States Savings Bonds:		
General Fund	$23,222.50	
Special Fund—Legislative Committee	9,039.00	
United States Treasury Bonds:		
General Fund—Cost	15,248.44	47,509.94
		$96,798.68

LIABILITIES AND SURPLUS

Liabilities		
Accounts Payable:		
Preparation of Medical Journal—September 1950 Issue	$ 1,251.68	
Executive Office—Printing	300.50	
Public Relations—Printing	41.00	$ 1,593.18
Surplus		
General Fund	$86,044.64	
Special Fund—Legislative Committee	9,160.86	95,205.50
		$96,798.68

Statement of Income and Expense
For the Fiscal Year Ended September 30, 1950

Exhibit "B"

Gross Income	Actual	Budget
Membership Dues	$43,499.48	
Royalties on History of Medicine in Virginia	52.50	
Interest on Savings Accounts and Securities	436.68	
Virginia Medical Monthly:		
Advertising	15,904.42	
Subscriptions from Non-Members	361.71	
Miscellaneous	182.00	
Total Gross Income	$60,436.79	
Expenses		
Executive Office:		
Salaries	$13,650.00	$13,850.00
Bonuses for Year Ended September 30, 1949	600.00	___ *
Office Rent	600.00	600.00
Telephone and Telegrams	381.40	225.00
Stationery and Office Supplies	300.58	200.00
Repairs and Replacements	79.68	200.00
Postage	255.71	300.00
Audit Fees	130.00	90.00
Social Security Tax	139.87	60.00
Councilmen and Officers Expenses	114.30	100.00
Delegates to A.M.A. Convention	1,843.86	1,550.00
President's Expense	250.00	250.00
Scientific Exhibits Committee	1,521.30	1,600.00
Walter Reed Commission	23.40	75.00
Cancer Committee	223.66	400.00
National Health Committee	20.90	30.00
National Emergency Medical Service Committee	102.06	150.00
Membership Dues — Affiliated Agencies	50.00	60.00
Special Appropriations by President	66.00	500.00
Convention Expenses and Commercial Exhibits	31.46	700.00
Special Appropriations:		
Virginia Council Health and Medical Care	2,000.00	2,000.00
Conference on Medical Service	-------	150.00
National Society Medical Research	150.00	150.00
Preparation and Distribution of Medical Journal	14,267.09	14,500.00
Department Clinical and Medical Education	25.00	-----
Child Welfare Committee	16.90	-----
Committee on Medical Service	142.36	----
Woman's Auxiliary	400.00	400.00
Miscellaneous Expenses	126.51	75.00
Total—Executive Office	$37,512.04	$38,215.00
Public Relations Department:		
Salaries	$11,080.81	$11.700.00
Traveling Expense	1,580.69	2,000.00
Telephone and Telegrams	1,090.00	1,400.00
Rent	600.00	600.00
Postage	762.70	1,000.00
Stationery and Office Supplies	566.97	400.00
Conference Expenses	915.52	1,000.00
Radio Programs	----	1,500.00
Press—Advice, Space, Etc.	-----	1,000.00
Printing, Literature, Bulletins and Subscriptions	2,419.00	2,000.00
Office Equipment	324.53	400.00
Educational Campaign	557.66)	
Exhibits	33.95)	1.000.00

*Budget appropriation was eliminated during the year by council, after payment had been made for bonuses based upon the fiscal year ended September 30, 1949.

Social Security Tax	146.36)	
Miscellaneous Expenses	406.36)	
TOTAL PUBLIC RELATIONS DEPARTMENT	$20,484.55	$24,000.00
TOTAL EXPENSES	$57,996.59	$62,215.00
SURPLUS INCOME FOR THE YEAR	$ 2,440.20†	

Legislative Committee Special Fund Receipts and Disbursements

For the Fiscal Year Ended September 30, 1950

"Exhibit "C"

BALANCE—October 1, 1949	$ 58.47
RECEIPTS	
Interest on Savings Accounts	1.40
Proceeds from Sale of U. S. Government Bonds	1,552.00
TOTAL AVAILABLE	$1,611.87
DISBURSEMENTS	
Legal Service	1,490.01
BALANCE—September 30, 1950	$ 121.86
FUND ASSETS—September 30, 1950	
Cash in Bank	$ 121.86
U. S. Government Bonds	9,039.00
TOTAL	$9,160.86

†Does not include $280.00 profit on sale and repurchase of savings bonds during the year.

Bonds Owned by Medical Society of Virginia

September 30, 1950

GENERAL FUND

TYPE OF BOND	SERIES	NO. BONDS	DATED	DUE	VALUE AT MATURITY	COST	VALUE AT 9-30-49	VALUE AT 9-30-50
U. S. Savings	F	10	2-1-43	2-1-55	$ 5,000.00	$ 3,700.00	$ 4,175.00	$ 4,305.00
U. S. Savings	F	17	12-1-43	12-1-55	8,500.00	6,290.00	6,876.50	7,097.50
U. S. Savings	F	1	1-1-44	1-1-56	500.00	370.00	404.50	417.50
U. S. Savings	F	3	2-1-44	2-1-56	1,500.00	1,110.00	1,213.50	1,252.50
U. S. Savings	F	2	6-1-44	6-1-56	1,000.00	740.00	797.00	822.00
U. S. Savings	F	2	12-1-44	12-1-56	1,000.00	740.00	786.00	809.00
U. S. Savings	F	2	5-1-45	5-1-57	1,000.00	740.00	776.00	797.00
U. S. Savings	F	7	11-1-45	11-1-57	7,000.00	5,180.00	5,369.00	5,502.00
U. S. Savings	F	6	10-1-49	10-1-61	3,000.00	2,220.00	2,220.00	2,220.00
U. S. Treasury		3	2-1-44	9-15-56-59	15,000.00	15,248.44	15,248.44	15,248.44
					$43,500.00	$36,338.44	$37,865.94	$38,470.94

Legislative Committee

SPECIAL FUND

U. S. Savings	F	1	3-1-46	3-1-58	$ 500.00	$ 370.00	$ 383.50	$ 393.00
U. S. Savings	F	11	3-1-46	3-1-58	11,000.00	8,140.00	8,437.00	8,646.00
					$11,500.00	$ 8,510.00	$ 8,820.50	$ 9,039.00

1950-1951 BUDGET—MEDICAL SOCIETY OF VIRGINIA

October 1, 1950—September 30, 1951

EXECUTIVE OFFICE	
Salaries	$17,400.00
Rent	600.00
Telephone	400.00
Postage	300.00
Stationery and Supplies	350.00
Repairs, Replacement, and Office Equipment	300.00
Convention Expense	700.00
Council Expense	425.00
Delegates to A.M.A.	800.00
Assistant to A.M.A.	200.00
President's Expense	600.00
Virginia Medical Monthly	15,000.00
Scientific Exhibits	1,600.00
Walter Reed Commission	75.00
Cancer Control	400.00
Maternal Health Committee	30.00
Child Welfare Committee	25.00
National Emergency Medical Service	150.00
Medical Service Committee	150.00
Membership Dues Affiliated Organizations	60.00
President's Contingent Fund	500.00
Special Appropriations:	
Virginia Council Health and Medical Care	2,000.00
Conference on Medical Service	150.00
National Society of Medical Research	150.00
Miscellaneous Expenses and Audit Fee	250.00

Woman's Auxiliary	400.00
Social Security	300.00
	$43,315.00
Public Relations Office	
Salaries	$10,900.00
Traveling Expense	2,000.00
Telephone and Telegrams	1,400.00
Rent	600.00
Postage	1,000.00
Stationery and Office Supplies	400.00
Conference Expenses	1,000.00
Radio	1,500.00
Press	1,000.00
Printing, literature, bulletins and subscriptions	2,000.00
Office Equipment	400.00
Educational Campaign, Exhibits, Miscellaneous	1,000.00
	$23,200.00
Total Budget	$66,515.00

PUBLIC RELATIONS

Your A. M. A. Investment.

Exactly what benefit is received from payment of American Medical Association dues? This question is natural and justifiable. As stated by Dr. George F. Lull at the recent Conference on Medical Service, there is little tangible return.

The Journal is perhaps the most significant printed material furnished. At a cost of $13.52 yearly, it is included at no extra cost in the $25 membership dues. Generally, $15 is earmarked for *The Journal* and $10 to the A. M. A. as dues. The "dues" allocation is used to maintain the vast activities undertaken by the Association.

The House of Delegates discusses and determines what matters should concern the A. M. A. Such matters are then routed to the proper committee or bureau for action. It is in support of these groups that a large portion of the dues is expended.

The Library providing much up-to-date information to physicians is not an inexpensive project; exposition of quackery by the Bureau of Investigation costs more than $20,000 yearly; the Council on Medical Education and Hospitals uses up to a quarter million dollars annually advancing medical education standards; a half million was donated to the American Medical Education Foundation to forestall federal control of medical schools; the Washington Office of the A. M. A. keeps the profession's interest before Congress and informs the profession of Congressional trends. These figures do not include the operational costs of the various other councils and departments too numerous to mention. The productive labors of these many functioning sub-organizations accrue to the membership.

Many more thousands are expended in underwriting the Quarterly Cumulative Index Medicus and the American Medical Directory as well as financing several journals on specialized aspects of medical practice.

As expressed by Dr. Lull, the greatest return for membership dues lies in the intangible research and protection afforded the medical profession and through it, the public.

American Medical Education Foundation.

On December 5 in Cleveland, Dr. Elmer L. Henderson, President of the American Medical Association, challenged the medical profession to initiate a fund-raising program in support of hard pressed medical schools rather than accept federal subsidies and ultimate federal control of medical education.

The following day Dr. Louis H. Bauer, Chairman of the A. M. A. Board of Trustees, announced the unanimous adoption by that Board of a half million dollar appropriation to serve as the nucleus of the fund. Within hours, more than $6,600 was voluntarily pledged by individuals.

The second step in the drive evolved. A. M. A. organized the American Medical Education Foundation under the laws of Illinois, a nonprofit corporation, to receive and distribute existing and future donations. With Dr. Walter B. Martin, Norfolk, as one of the directors, the Foundation is today

actively engaged in enlarging and allocating its endowment to needy medical schools.

In keeping with Dr. J. Morrison Hutcheson's resolution adopted by the Medical Society of Virginia, October 1950, supporting the position of the A. M. A. with regard to federal aid to medical education, the Council authorized a $1,000 contribution to the Foundation. According to the A. M. A., this was the second state medical society to appropriate a contribution to this fund.

A recent policy development has been announced by the Foundation directors. Now a physician may designate the particular institution to which he wishes his gift applied. Such specific assignment will be made along with the name of the physician.

Another major development was the action of the same Board in voting that the A. M. A. would assume all the operating and overhead costs of the Foundation. This assures contributing individuals that their entire gratuity will be passed on to the medical schools without deductions.

The latest efforts of the campaign are summarized in a letter to the Medical Society of Virginia from Dr. Donald G. Anderson, Secretary-Treasurer of the Foundation. This refers to a stated belief of the Board of Directors that "it would be of the greatest help in securing support if each county or district medical society would appoint an individual or committee to assume responsibility for stimulating interest in the Foundation and seeing that the largest possible number of physicians contribute promptly and generously."

It is assumed that any official action on this by the Medical Society of Virginia will be discussed by the Council at its next meeting, probably in May.

Continuing Education.

Under the chairmanship of Dr. W. C. Caudill of Pearisburg, the Department of Clinical and Medical Education of The Medical Society of Virginia is moving forward with its program of continuing education for members. Underwritten in an amount of $1,000 by the Society, the Department plans "field education" courses embracing cancer as well as other outstanding medical subjects. According to Dr. Kinloch Nelson, these "on-the-scene post-graduate seminars" have proved highly valuable in other states.

In a letter to all component societies, Dr. Nelson outlined the suggested plan adopted by one society with the hope that others would be interested in organizing such meetings. The idea is to "offer practical post-graduate work to many physicians who are unable to leave their practice for any length of time for more prolonged training." Indications are that seminars are more likely to be planned in such a manner as to encourage local attendance by reason of convenience to physicians in contiguous communities.

Two annual meetings in April and September have been proposed to be so arranged at such a time as to offer the complete course during an afternoon and evening session. The suggestion is that the cost be at least partially defrayed by those in attendance, using the State Society appropriation only if necessary.

The Department feels that it is now prepared to operate effectively its program if local medical societies want it. Interested member groups should notify Dr. Nelson at the Medical College of Virginia in Richmond, so that the Department could procure the speakers and arrange the program.

The first of the above articles is an indication of the importance of an over-all organization through which services may be provided for the profession and to the individual member.

The second refers to the values that may accrue from efforts of members of the profession to avoid the entry of the Federal Government, or politics, into medicine.

The third article is an illustration of the voluntary effort on the part of physicians to keep up with, and still further improve their professional knowledge, which in the last analysis is calculated to enure to the benefit of the patient.

All of these contribute to *professional* relations, and obviously have a bearing on *public* relations.

EDITORIAL

William S. Halsted (1852-1922)

At the turn of the Century, surgical technic was not the finished affair that we know today. There were no rubber gloves, masks and costly operating tables such as we are accustomed to now. The previous generation had just graduated from emergency kitchen surgery. As a matter of fact, most hospitals had surgical kits and teams which they sent out to neighboring towns for emergency operations. The operations were mostly for appendicitis. Gall bladder surgery was in its infancy and this was true of other abdominal surgery. Chest surgery and brain surgery were unknown. The man who was responsible for most of the refinement of modern surgical technic was William S. Halsted.

William Stewart Halsted was born in New York City, September 23, 1852. For generations, on both sides of the family his ancestors had been prominent merchants and professional men in New York and neighboring New Jersey. His grandfather founded the Union Theological Seminary in New York. His parents were cousins. When ten years old he was sent to a private school at Monson, Massachusetts. He was not happy at school and in the spring he attempted to escape. He was "captured", as he himself expressed it, and sent back. The next year he was sent to Andover where he graduated at the age of 16. At Yale he devoted himself to athletics and dramatics. Nevertheless, he graduated in 1874 and entered the College of Physicians and Surgeons the following fall, registering with Dr. Henry B. Sands. Thus it was that he began his career at the beginning of the antiseptic era and came in contact with the best men in New York. Through his friendship with Dr. George B. Fowler, he became assistant to Professor John C. Dalton. In his second winter he made some chemical tests in the office of Alonzo Clark, who was at the time President of the College and Professor of Pathology and the Practice of Medicine. In the summer of 1875 he worked in the pharmacy of the Centre Street Dispensary. Here he came in contact with Dr. Thomas A. McBride. In the autumn of 1876 he took the examinations for Bellevue Hospital, in spite of the recent ruling that only graduates in medicine were eligible. He won fifth place and chose the 4th surgical division. As an interne at Bellevue he followed the medical work with as much interest as the surgical. He came under the influence of Janeway, Loomis, and Jacobi. Lister had just visited this country. His teaching was variously received. The surgeons of the 4th division made no objections to the internes trying antiseptic surgery.

In the spring of 1877 he took the examinations for the M.D. degree, standing tenth in his class. This entitled him to compete for a prize of $100, which he won. In the winter of 1877, he took a competitive examination for house physician to the New York Hospital which he also won. Here, in the summer of 1878, he first met Dr. William H. Welch, who had just returned from Europe. Halsted began his own European "Wanderjahrs" in the fall. After studying in Vienna, Würzburg, Leipzig, Halle, Berlin, Hamburg and Kiel, he returned to New York early in September 1880. In these two years were laid the foundation of friendships that lasted throughout his life—with men like Billroth, Wölfler, Mikulicz, Kölliker, Weigert, Huber, Thiersch, v.Bergmann, Volkmann, Schede and Esmarch.

Upon his return to New York, he became assistant to Sands at Roosevelt. It was at Roosevelt that he organized his famous "quiz" with George Monroe, Tuttle, Hartley, Thompson, Roosevelt and Dr. Welch. He taught anatomy at P. and S., anatomy and sur-

gery at his "quiz", and surgery Sunday mornings at the Roosevelt Hospital. He had the reputation of being a bold and original surgeon, and was rapidly building up a lucrative private practice. He was well on the road to success.

About this time Dr. Halsted reached a mysterious turning point in his career. In September 1884, Koller announced at the Heidelberg Ophthalmic Congress that cocaine applied locally would anesthetize the conjunctiva and cornea. Halsted and his associates at the Roosevelt Hospital began to experiment with the drug. Halsted discovered that if cocaine were injected into a sensitive nerve the parts supplied by this nerve became insensitive. This was the beginning of local anesthesia. Years later the Maryland Dental Society tendered him a dinner at which they awarded him a gold medal from the American Dental Association for his discovery of conduction anesthesia. The Roosevelt group continued to experiment with the drug, trying its effect on themselves and their friends. No one at that time knew that cocaine was habit forming. Halsted was among those who fell a victim to the drug. His addiction was a carefully guarded secret and every effort was made to cure him. Dr. Welch, who had already gone to Johns Hopkins as Professor of Pathology, took him to Baltimore and put him to experimenting with dog surgery, giving him a room in his laboratory for the purpose. Finally, he went to a sanatorium in Providence and told the superintendent to see that he had no money with which to buy drugs. Thus he wrestled with himself and won. How much all this had to do with his subsequent career no one can say. At least we know that he came back to Baltimore to a more thoughtful, leisurely life and one far more fruitful than the strenuous rush in New York could ever have been. He began to study the fundamental problems of wound healing on his dogs. He had already mastered Listerism in New York and he knew that exclusion of bacteria, even if that could be accomplished completely, was not the whole answer. Avoiding tissue trauma was as important or even more so. He showed that if the tissues were not traumatized and the circulation not interfered with, bacteria introduced within the peritoneum failed to cause peritonitis. He showed the importance of perfect hemostasis and the abolishing of dead spaces. He advocated ligatures so fine that if you used too much force in tying them the ligature would break. He showed the harmfulness of mass sutures in interfering with the circulation. He did not minimize the bad effects of bacteria. In fact, he advocated subcutaneous sutures in order that the needle would not have to penetrate the skin and thus carry bacteria to the wound. He introduced rubber gloves, and thin gutta percha as a protective dressing of wounds. He found out that the submucous layer gave strength to the intestinal suture in end to end anastomosis.

When the Johns Hopkins Hospital opened in 1889, Dr. Halsted was ready for the job as surgeon. Here he not only developed his hernia operation and devised the radical operation for cancer of the breast for which he became widely known, but he established a school for the training of master surgeons. After the medical school was started, Dr. Halsted, or the "Professor", as the students used to call him, spent as much time operating upon dogs as he did with patients. Every thing he did was carefully and thoroughly tested on the dog first. When thyroid surgery began to develop, some cases had convulsions after the operation. Other operators had trouble with severe hemorrhage. He worked out on dogs a technic to avoid removal or injury of the parathyroids and to cope with the engorged blood vessels.

He was interested in the fundamentals and not in frills. His operating table is abundant evidence of this. One of them is in the Museum of the Richmond Academy of Medicine. It is a brass bound, rectangular trough made of oak. There is a hole in the center of the trough for drainage. In either end of the trough is a triangular block

that reaches to within an inch of the top of the trough, and over the top is an oaken board which is about 2 feet longer than the length of the trough. A pad on the board completes the equipment, except for "surgical John", the orderly. If the Professor wanted the patient in the Trendelenburg position, John would draw the board toward the feet until the head end rested on the triangular block and then hoist the foot end on his shoulder and hold it at the height the Professor desired. The head was elevated in just the opposite way. The "table" was equipped with an arm board that rested in square notches in the sides of the trough so that the arm board fitted under the board upon which the patient rested.

The Professor was a perfectionist and got perfect obedience from all with whom he came in contact. Just what verb to use I do not know. He did not demand it; he did not exact it, it just came naturally from admiration of the surgeon. Surgical John would no more have thought of moving or fidgeting when holding the Professor's table than would a statue of Hercules. On one occasion the Professor was demonstrating to the students an old ankylosis of the shoulder joint. He had told us that sometimes the axillary vessels were injured when manipulating such a joint. A few minutes later that is just what happened. He asked Follis, who was his resident at the time, to compress the subclavian artery while he prepared to operate on the axilla. At the end of the operation, Follis was still holding, uncomplainingly, the subclavian artery. The Professor turned to him and said, "That will do, Follis, I thank you." The whole episode was so "in character" that no one, at the time, thought it was funny, such was the respect that everyone had for the Professor.

In June 1890, the Professor married his head operating room nurse, Miss Caroline Hampton. Miss Hampton was a niece of General Wade Hampton, and they were married from the Hampton home, "Millwood". Dr. Welch was best man. Miss Hampton was educated at Edgehill in a school taught by Miss Randolph, a great granddaughter of Thomas Jefferson, and at the New York Hospital, where she graduated in nursing. She inherited a place in the North Carolina mountains near Cashiers. Here they spent at least a part of every summer. Mrs. Halsted was an expert horsewoman and fond of dogs. She raised dahlias and managed the farm. The Professor became greatly interested in dahlia culture, but spent much of his time in long walks in the woods and in reading. Some summers the Professor would go first to Europe and join Mrs. Halsted later at "High Hampton", as they named their place in the mountains. In Baltimore, they lived in 1201 Eutaw Place. The Professor had long been a fastidious old bachelor, having his shirts laundered in Paris and his clothes made in London. Mrs. Halsted was a great sufferer from migraine. Nevertheless, they got along well together, for they were devoted to one another. They did little entertaining, but when they gave a dinner, it was perfection itself. Dr. Halsted had few interests outside his home and his work, and few close friends. Those who knew him well, like Dr. Welch, Col. Venable and Mr. Gordon McCabe of Richmond, found him delightful company with a sly sense of humor.

He died September 7, 1922 of pneumonia and pleurisy following an operation on the common duct for the removal of a gall stone. His funeral was from his home on Saturday, the eighth, followed by cremation in London Park Cemetery. His ashes were interred in Greenwood Cemetery, Brooklyn. Dr. Frank Kent, in an editorial in the *Baltimore Sun* of September 8th, said in part, "Because Dr. William S. Halsted lived, the world is a better, a safer, a happier place in which to be. In his death not only Baltimore, but civilization as a whole, has sustained a heavy loss. He was one of the few men who really count. Quiet, simple, unostentatious, except in the medical world

where he towered, a great and dominating figure, the full scope of his genius and the tremendous extent and value of his services to mankind were neither generally known nor generally appreciated."

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The Cost of Medical Education

ONCE upon a time a medical school was a paying institution. It was called a proprietary school. A group of prominent physicians and surgeons would get together, buy an old building, knock out some partitions to make room for a dissecting hall and a lecture room, and advertise for students. At the end of the session they would divide the fees and the expenses. The latter were practically nil. As the school became better established the faculty would usually attempt to form a connection with some chartered liberal arts college, with the idea of "legalizing" the M.D. degree that they gave. The connection however was purely nominal, the faculty retaining all the proprietary rights and the profits.

Fifty years of such development produced a chaotic condition in medical training. It was to straighten out this situation that the American Medical Association was founded a little more than one hundred years ago. It established standards, encouraged the weaker schools and eventually did away with the "diploma mills". If any institution has a vested interest in the medical schools, it is the American Medical Association.

The downfall of the medical school as a money making institution began with the advent of the laboratory. First there came laboratories for chemistry, histology, physiology, pharmacology and pathology. The labs for the basic sciences were not so bad from the standpoint of cost, but when the clinical laboratory appeared, and the laboratory was brought to the patient, the costs really began to mount. About this time X-rays became a necessity in diagnosis and there was a commendable furor for investigation, which further added to the financial burden and also introduced a bookkeeping problem. Since then no one has known what medical education actually costs or how much of the medical school's income goes to research. Another curious practice is the use of the term "deficit". Deficit to a medical school does not necessarily mean a loss, but merely a curtailment of activities. These activities consist of (1) undergraduate education, (2) postgraduate education, (3) research, (4) community service, and (5) care of the indigent sick. The student fees could no longer cover the cost of medical education, to say nothing of the care of patients and the increasing costs of research.

In the early days, the student was expected (with the aid of the janitor) to supply his own "subject" from the nearby cemetery. When this was no longer possible or desirable, the various States passed Anatomical Laws that provided an adequate supply of cadavers. Later, when mounting costs made it necessary for the medical schools to have outside sources of revenue, many States provided the funds. In addition, philanthropic rich men gave huge endowments to certain schools that excited their fancy.

Such was the situation fifty years ago. In our own case, for instance, the tuition was $200 a year and the medical school spent $500 upon each student. The situation has grown steadily worse for two main reasons. The first is the necessity for the medical

schools to have teaching hospitals. This has added stupendous costs. The second is the cheapening of money. The endowments not only yield fewer dollars, but the dollars buy fewer things. Furthermore, this inflationary movement has dried up the source of future endowments. Inflation has been particularly hard on all educational institutions, and many have developed what they call a "living endowment". They have persuaded their alumni to give an annual gift towards maintenance. A yearly gift of $100 is the equivalent of an endowment of $2,857 at the present yield of invested capital.

With the medical schools the condition has become chronic and no longer has the appeal that freshness and newness gives. If it is not the medical school, it is the hospital that is hopelessly in the red. The public has a vague idea that the deficit is shifted back and forth from one to the other as occasion and the drive for funds demand. Another confusing aspect of the situation is that every medical school is filled to capacity with medical students. It is un-American to have more business than you can do and run behind doing it. The natural answer is that something must be wrong and that is a poor basis for a campaign for raising money. The trouble is that we have mixed up three distinct things, (1) medical education, (2) the care of the indigent sick, and (3) research. If it is possible we should unscramble the eggs. Some master mind of an auditor should establish a system of accounting, by which the public could know what medical education costs, what the care of the sick in the hospital costs, and what medical research costs. The medical student should be charged tuition sufficient to cover the costs of medical education. If this proved too large for the average student, communities that need doctors would gladly underwrite the tuition of a likely student. The care of the medical indigent is a community problem that most communities willingly assume. Research problems have other appeals.

In the meantime the medical schools must go on. The medical profession cannot stand by and say let George (meaning Uncle Sam) do it. Uncle Sam seems all too anxious to do just that, for it is a Federal axiom that the government controls what it supports financially. Nothing could be more disastrous than for the Federal government to control medical education. To meet the present emergency, the American Medical Association has not only given a half million dollars but has also established the "American Medical Education Foundation" to receive and distribute additional funds. The Directors are well-known to you and should inspire your confidence. They are Louis H. Bauer, Gunnar Gunderson, Edwin S. Hamilton, Walter B. Martin, Elmer L. Henderson, George F. Lull, J. J. Moore, H. G. Weiskotten, Harvey B. Stone, Victor Johnson and Donald G. Anderson. It is hoped that every doctor will make a substantial contribution to the Foundation. Make out your check to the American Medical Education Foundation and send it to 535 North Dearborn Street, Chicago 10, Illinois.

THE PRESIDENT'S MESSAGE

A FEW weeks ago, the Council voted to exempt from dues those members going into the Armed Services, for the period of time that they remain in service.

While the Council feels that this is the only fair thing to do and is glad to initiate it, it is aware of the likelihood that this will materially reduce the income of the Society for the next year or more, or until these members return to practice. We must seek other sources of income.

The roster of the Virginia Board of Medical Examiners, published July 1950, lists 2,627 persons licensed to practice medicine and surgery in the state. There are 2,230 members of the Society. Some listed in the roster are not eligible for membership in the State Society. It is believed that there are quite a few who are eligible and desirable who are still not listed as members of the Medical Society of Virginia.

We must go after these physicians (through the local medical societies, of course). We need them and they need us.

If you know of any physician who would be a desirable member and who does not belong to the state society, we should like to urge that you call this to the attention of the local society in which he has membership, or with which he is more likely to affiliate.

Many illustrations might be offered to point up the strength of unity. We are still in the midst of an educational program to justify private enterprise medicine.

It behooves every member to be concerned with all the unity and strength that can be mustered in the local society, in the state society and in A.M.A.

Much of our present dilemma stems from lethargy on the part of the individual membership. We appeal to each of you to assist in increasing our membership.

We cannot have a program without funds. The cost of this should be shared by those who profit. We know of no better or easier way of providing the necessary revenue than by an increase in our membership.

This is one of our problems and we know that you will want to help solve it.

Component societies and membership, please give your full support to the extent of your ability to the American Medical Education Foundation. Send your donation at once. My contribution has gone. Has yours?

C. L. HARRELL, M.D.,

Floral Eponym

Alstroemer, Claude. 1736-1794

ALSTROEMERIA

Baron Claude Alstroemer was a friend of Linnæus. On a trip to Spain he described a plant, the Lily of the Incas, which Linnæus named for him. Alstroemer was a member of the botanical society of Florence and of the Royal Academy of Stockholm, of which he was at one time the president.

Alstroemeria is a large genus of South American amaryllidaceus plants having fibrous roots, leafy stems and umbels of variously colored flowers.

SOCIETY PROCEEDINGS

The Williamsburg-James City County Medical Society

Had a dinner meeting on February 16, at the King and Kay Tea Shop in Williamsburg, with Dr. E. Beamer Maxwell presiding. Fifteen members were present and Mr. Elliott W. Jayne, Fire Marshal, was a guest. The secretary, Dr. Granville L. Jones, reported on the meeting of the State Society Public Relations Committee held in Richmond on December 15. A letter was read from the local Fire Department, asking the Society's help is assisting them in working out a plan for more prompt and effective medical attention for accident cases. A committee was appointed to see if a panel of physicians could be set up for such emergency calls and if some funds could be obtained from the community chest to help reimburse physicians and hospitals when necessary.

In the election of officers, Dr. Baxter I. Bell was named president; Dr. Granville L. Jones vice-president; and Dr. Gordon Keppell secretary-treasurer, all of Williamsburg.

Dr. Frank A. Dick presented a short talk on the treatment of hip fractures, illustrated by x-ray films, from his consulting practice at Eastern State Hospital.

A motion was passed requesting the secretary to communicate with the Mid-Tidewater Medical Society to see if a joint meeting could be arranged either for the next meeting or in the Fall.

The Wise County Medical Society

Held its regular meeting at the hotel in Norton on February 14, as guests of Drs. W. B. Barton, G. B. Setzler, F. E. Handy, J. D. Culbertson and T. J. Tudor. Twenty-five members attended. Following a turkey dinner, hospital and medical rates were discussed but no action taken on this. Dr. Setzler, just back from a national conference in Chicago, reported on the doctor supply, stating it was the belief of the conference that there was an improper distribution rather than an inadequate supply of doctors.

Officers elected for 1951 are: President, Dr. George F. Sutherland, Big Stone Gap; vice-presidents, Drs. J. J. Porter of Appalachia and George C. Snead of Derby; secretary-treasurer, Dr. Thomas J. Tudor, Norton; and new member of the board of censors, Dr. Dahar Cury, Norton. After the business session, the latest release on Cancer of the Breast was shown. The next meeting is to be on May 9th, at which time there will be a guest speaker.

James River Medical Society.

The 1951 officers of this Society, elected recently, are: President, Dr. W. E. Moody, Scottsville; vice-president, Dr. J. H. Yeatman, Fork Union; and secretary-treasurer, Dr. W. A. Pennington (re-elected), Buckingham.

The Danville-Pittsylvania Academy of Medicine

Held its regular monthly meeting, February 16, with Dr. Norman Conant as guest speaker. Dr. Conant, Mycologist at Duke University Hospital, Durham, North Carolina, reviewed, with slides, the subject of Deep Mycoses. A patient with blastomycosis was presented by Dr. Walter C. Fitzgerald.

Dr. W. Earl Overcash and Dr. John R. Eggleston, both of Danville, are president and secretary respectively of the Academy.

Lynchburg Academy of Medicine.

The February meeting of the Academy was a dinner one held at the Virginian Hotel, in Lynchburg, on the 12th of the month. The guest speaker was Dr. John M. Nokes of the University of Virginia, whose subject was "Indications for Therapeutic Abortion and Sterilization". Dr. J. W. Davis, Jr., and Dr. Edwin A. Harper are president and secretary respectively of the Academy.

At the March 12 meeting of the Academy, Dr. Parker Lee presented a paper on "Crossed Eyes" and Dr. John Risher, gave a talk on "Meniere's Syndrome". Both of the speakers are of Lynchburg.

Roanoke Academy of Medicine.

Speakers at the March meeting of the Academy were all Roanoke doctors who presented the following program:

Case Reports—Nephritis Following Influenza—Dr. John O. Hurt

Neuromyelitis Optica (Devic's Disease)—Drs. Wm. F. Hatcher, R. Earle Glendy and Edgar N. Weaver

Injuries of the Chest—Dr. Marcellus A. Johnson, III

Endaural and Fenestration Surgery of Mastoid Bone —Dr. Houston L. Bell

Drs. E. G. Gill and Samuel F. Driver are president and secretary respectively of the Academy.

The Washington County Medical Society

Met at the Martha Washington Inn on December 21st, 1950, at 6:30 p.m. This meeting was held as Ladies' Night, as had been decided at the November meeting. There was an attendance of twenty-seven, besides Dr. and Mrs. J. C. Motley and Mr. and Mrs. Harry Comer, guests.

Mr. Comer gave a very interesting speech on Negroes—their problems and lives, and illustrated his speech with some very enjoyable Negro stories.

Opinion was expressed at this meeting that the Ladies greatly enjoyed "Their Night" and unanimously suggested that another Ladies' Night be held next year. This the Society decided to do.

At the January meeting, the Society elected the following slate of officers for the coming year. President, Dr. J. H. Hagy, Abingdon; Vice-President, Dr. R. L. Hillman, Emory; Secretary-Treasurer, Dr. J. M. Suter, Abingdon.

Dr. John A. Wolfe, the retiring president, expressed his thanks and appreciation for the cooperation he had received during his year in office and then turned the gavel over to Dr. Hillman, the newly-elected Vice-President, as Dr. Hagy was in Florida. Speaking for Dr. Hagy, Dr. Hillman said that the Society would be carried on in the coming year as it had in the past.

The Society met at the Martha Washington Inn on February 15 at 6:30 p.m. with the following present: Drs. Catron, Johnston, LeGarde, Meyer, Shaffer, Smith, Suter and Wycoff.

Mrs. Eula Fullerton, Director of Department of Public Welfare of Washington County, was present at this meeting to present to the Society some of the medical problems which she encountered in her work. A lively discussion followed concerning the care of indigents. On nomination by Dr. Meyer and seconded by Dr. LeGarde the Committee for the Care of Indigents, consisting of Drs. Hayter, H. Wolfe and Suter, were instructed again to investigate the possibility of the establishment of an out-patient department or clinic at the Johnston Memorial Hospital for the care of indigent patients. It was decided that this project should be investigated and that how the patients would be referred, the need for drugs, laboratory facilities, etc. could be worked out at a later date.

NEWS

The Norfolk County Medical Society

Is holding its annual Spring Clinic in Norfolk on April 4. Guest speakers will be Dr. Brian Blades of George Washington University, Washington, and Dr. William Parson of the University of Virginia. An instructive program has been arranged for this outstanding teaching event of the year. Approximately 300 doctors attended last year, which attests the interest of these clinics. Dr. Eugene Lowenberg is chairman of the Committee in charge.

The Ophthalmological and Otolaryngological Section, Richmond Academy of Medicine,

Held its regular meeting at the Commonwealth Club on March 6. After a social hour and dinner, the meeting was called to order by Dr. Ed Vaughan with eighteen members present.

When the business was concluded, Dr. P. N. Pastore presented a Case of Recurrent Meningitis. This was discussed and the subject of Meningitis and Its Treatment further elaborated by Dr. W. H. Higgins, Sr. Following this, Dr. Edgar Childrey presented a paper on Remarks Concerning Causes of Blindness, especially pertaining to those people eligible for income tax deductions because of this disability.

Scientific Exhibits.

Dr. Charles H. Peterson, chairman of the Committee on Scientific Exhibits of the Medical Society of Virginia, announces that the Committee will now receive applications for scientific exhibits for the October meeting of the Society at Virginia Beach. The deadline for applications will be June 15th. The executive committee will then choose those to be shown and notify the exhibitors by July

1st. This will be necessary because of the limited space at disposal for scientific exhibits. Applications should be sent to Dr. Eugene L. Lowenberg, 100 Medical Arts Building, Norfolk 10, chairman of the local committee for scientific exhibits.

Tri-State Medical Association of Virginia and the Carolinas.

The annual meeting of this association was held in Columbia, South Carolina, the latter part of February, with Dr. R. B. Davis of Greensboro presiding. Officers elected at this time for the succeeding year are: President, Dr. W. R. Wallace, Chester, S. C.; president-elect, Dr. James Asa Shield, Richmond; vice-presidents, Dr. John F. Williams, Richmond, Dr. R. L. Crawford, Lancaster, S.C., and Dr. T. C. Bost, Charlotte; secretary-treasurer, Dr. James M. Northington (re-elected), Charlotte. Councilors named for three years are: Dr. Allen Barker, Roanoke, Dr. C. M. Gilmore, Greensboro, and Dr. W. C. Canter, Columbia.

Southern Surgical Association.

Dr. Frank C. Wilson of Birmingham was elected president of this Association at its annual meeting held recently, and Dr. John C. Burch of Nashville, Tennessee was re-elected secretary. Dr. Carrington Williams of Richmond was elected treasurer.

Richmond Academy of General Practice.

This Society installed the following officers for 1951 at its meeting in February: President, Dr. Carl W. Meador; vice-president, Dr. Russell McAllister; secretary, Dr. Harold I. Nemuth; and treasurer, Dr. W. Linwood Ball.

News from Department of Medicine, University of Virginia.

A Conference on the Treatment of Emotional Disorders was sponsored by the Department of Medicine, University of Virginia, March 23, in cooperation with the Mental Hygiene Committee, Medical Society of Virginia. The Conference was organized under the direction of Dr. David C. Wilson, Professor of Neurology and Psychiatry. The guest speaker was Dr. Jacob Finesinger, Professor of Psychiatry, University of Maryland.

A grant of $9,249 has been awarded Dr. William Parson, Professor of Internal Medicine, and Dr. Jesse Beams, chairman of the Physics Department, University of Virginia, by the National Heart Institute for studies on "Ultracentrifugal Analysis of Human Plasma Lipoproteins and their Relationship to Vascular Disease."

Dr. Grover C. Pitts, Assistant professor of Physiology, University of Virginia, has received a grant from the National Institute of Health for studies on the "Gross Composition of the Fat-Free Mammalian Body. The Ratio of Principal Body Components (Muscle, Bone, and Blood) in Normal Individuals and in Representatives of the Extremes of Body Habitus."

A new Department of Social and Environmental Medicine has been established at the University of Virginia. Dr. Robert D. Wright, senior surgeon, U.S. Public Health Service, has been appointed professor and chairman of the Department, which will be concerned with instruction and research in public health and preventive medicine and in sociological problems which affect health and medical care.

The Childrens' Service Center of the University of Virginia has been approved by the American Association of Psychiatric Clinics for Children as a Center for training in child psychiatry and social work. It is one of 18 such recognized training centers in the United States.

A resident training program in psychiatry has been established under the joint supervision of the Veterans Hospital at Roanoke, and the Departments of Neurology and Psychiatry at the University of Virginia and Duke University. Eighteen months of the three-year program are spent at the VA Hospital in Roanoke, where members of the medical school faculties hold seminars, clinics and ward rounds. The other eighteen months are spent at the University of Virginia or Duke University Hospitals where the trainee gains experience in the care of the more acutely ill patients. Stipends of $2,400, $2,600, $3,000, per year, respectively, are paid by the Veterans Administration. The trainee is not obligated to enter employment of the Veterans Administration on completion of training, and he may withdraw from the program at any time after the first year.

Dr. Lucius D. Hill, III, resident on Thoracic Surgery, University of Virginia Hospital, and a member of the class of '44 at the University, was awarded the John Horsley Memorial Prize at the annual meeting of the Sigma Xi Society, Charlottes-

ville, March 6, for his thesis on "Acute Renal Insufficiency and the Role of Potassium with Treatment by Intestinal Lavage."

The Award is based on the results of original investigation of a problem in one of the basic medical sciences related to surgery. Competition is limited to graduates of the University of Virginia Department of Medicine of not more than 15 years standing and to former house officers of St. Elizabeth's Hospital, Richmond.

The John Horsley Memorial Prize was established in 1925 by the late Dr. J. Shelton Horsley, Richmond, an alumnus of the University, in memory of his father, Mr. John Horsley of Nelson County. The objective of the donor was to stimulate the spirit of investigation among younger graduates in medicine, particularly in reference to the problems of surgery.

The American College of Physicians

Held a regional meeting on February the 28th, with Dr. C. D. Nofsinger, of Roanoke, chairman, presiding. An interesting clinical program was held at the Appalachian Auditorium from 1:30 to 4:45, following which there was a social hour and dinner at the Roanoke Country Club. Following the dinner, there was an address on The Scientific Perspective of Medicine by Dr. William S. Middleton, President of the American College of Physicians who is Dean of the University of Wisconsin Medical School.

Dr. Robert K. Waller,

Lecturer in Legal Medicine and assistant professor in Pathology at the Medical College of Virginia, has been named a "scholar in medical science" and awarded a grant by the John and Mary R. Markle Foundation of New York. The grant will allow $6,000 a year for five years for the support of Dr. Waller in his work at the College on pathology and research.

Married.

Dr. William R. Whitman and Mrs. Nellie W. Preston, both of Roanoke, February 24.

Dr. Edgar C. Harper,

Formerly director of the tuberculosis field service with the State Health Department and later with the Veterans Administration in Richmond, has been appointed chief medical officer of the VA Center at Mountain Home, Tennessee. Since leaving Virginia early in 1950, Dr. Harper has been chief of tuberculosis service of the Center at Mountain Home.

Dr. Julian E. Mangus,

Formerly of Wytheville, has moved to Spray, North Carolina, where he is engaged in general practice.

Heart Symposium and Clinics.

The annual Winston-Salem Memorial Heart Symposium and Clinics will be held on April 12 and 13 under sponsorship of the Winston-Salem Heart Association. Dr. Robert L. McMillan, associate professor of clinical internal medicine, Bowman Gray School of Medicine, is in charge of arrangements for the meeting.

Participants will include: Dr. Stanley Gibson, director of the department of cardiology, Children's Memorial Hospital, Chicago, Ill., and professor of pediatric and chairman of the department, Northwestern University School of Medicine; Dr. R. Bruce Logue, director of the division of cardiology and assistant professor of medicine, Emory University, Georgia; Dr. Louis N. Katz, Michael Reese Hospital and director of the cardiovascular department of the Medical Research Institute, Chicago, Ill.; Dr. E. Sterling Nichol, director of the American Heart Association, Miami, Fla.; Dr. A. Carlton Ernstene, director of the division of medicine, Cleveland Clinic, Cleveland, Ohio; Dr. Irving S. Page, director of research in cardiovascular diseases, Cleveland Clinic, Cleveland, Ohio; Dr. Edward Weiss, professor of clinical medicine, Temple University and National Committee for Mental Hygiene, Philadelphia, Penna.

All physicians living in North Carolina and neighboring states are invited to attend the symposium.

Congratulations to Dr. Garcin.

The Report of the Board of Governors of the Masonic Home of Virginia to the Grand Lodge, A. F. and A. M., on December 31, carries an appreciation of the work of Dr. R. D. Garcin in caring for the health of the boys and girls at the Masonic Home, Richmond, for fifty-seven years, and without monetary compensation. The report says in closing: "Your Board of Governors desires to extend its hearty congratulations to Dr. Garcin for his long, efficient and faithful service and to offer its prayerful thanks to the Supreme Architect of the Universe

for the length of days which he has granted our friend, the Beloved Physician."

The American Academy of Occupational Medicine

Held its annual meeting in Wilmington, Delaware, on February 8, 9, and 10. The following officers were elected: President, Dr. Frank M. Jones, Canadian Industries, Ltd., Montreal, Canada; vice-president, Dr. James H. Sterner, Eastman Kodak Company, Rochester, N. Y.; Treasurer, Dr. Arthur F. Mangelsdorff, Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J.; and Secretary, Dr. Leonard J. Goldwater, Professor of Industrial Hygiene, School of Public Health, Columbia University, New York. The Board of Directors includes the officers and Dr. Rutherford T. Johnstone, Los Angeles, Calif., Dr. Frank Princi, Cincinnati, Ohio, and Dr. Charles L. Savage, Waynesboro, Virginia.

Medical College of Virginia.

The fourth annual Stoneburner lecture and symposium on Cortisone and ACTH was held in the Egyptian Building, March 8 and 9. The Stoneburner lecturer on the evening of the 8th was Dr. Philip S. Hench of the Mayo Clinic, his subject being The Present Status of Cortisone and ACTH in General Medicine. A symposium on these subjects was held on the 9th, the use of the drugs being discussed by the following specialists: Dr. William Parson, University of Virginia; Drs. Everett I. Evans and Elam A. Toone, Jr., Medical College of Virginia; Dr. Harriet G. Guild, Dr. John E. Howard and Dr. Alan C. Woods of Johns Hopkins, Baltimore; Dr. Joseph J. Bunim, New York University College of Medicine, Dr. Louis J. Soffer, College of Physicians and Surgeons, Columbia, and Dr. Marion B. Sulzberger, New York University Post-Graduate Medical School.

Speech Improvement Camp.

The third annual session of Camp Woodrow Wilson, a summer speech improvement camp, will be held this year from June 24th to August 18th. The camp is dedicated to the purpose of assisting children in correcting speech defects.

Located on the grounds of the Woodrow Wilson Education Center near Fishersville, Virginia, this camp provides not only speech therapy but a complete program of summer recreational activities and ample opportunity for handicraft and other hobbies. Boys from 7 through 20 and girls 8 through 12 will be eligible for enrollment in the camp. The speech defects to be treated include articulatory defects, stuttering, post-operative cleft palate and voice problems.

The cost for the eight weeks session, including room, board, and tuition will be $250. The staff will again be headed by Mr. Benjamin S. Andrews, Director, and Dr. James M. Mullendore, Consultant.

Further information and bulletins may be secured from Mr. Andrews, Box 161, Medical College of Virginia, Richmond, or Dr. Mullendore, Speech and Hearing Center, 58 East Range, University of Virginia, Charlottesville.

Health Department News.

Dr. Albert E. Pagan has been appointed Health Officer for the Page-Warren-Shenandoah Health District. This appointment became effective March 1, 1951.

Post Graduate Lecture Course.

On Wednesday, April 11, there will be held at the Yacht Club, Tappahannock, Virginia, a post graduate lecture course for members of the Northern Neck Medical Association, and Mid-Tidewater Medical Society.

Class will begin at 2:00 P.M. and continue until 9:00 P.M. with an intermission for a social hour and supper from 5:00 P.M. to 7:00 P.M.

Subjects for discussion will be on pediatrics, dermatology, gynecology, and obstetrics.

Each member is urged to attend these lectures. A small registration will be charged.

Dr. William Bickers

Has re-opened his office in the Medical Arts Building, Richmond, after completing an assignment in the Department of Obstetrics and Gynecology at the Bishop De Goesbriand Hospital, Burlington, Vermont and a visit to several of the gynecological clinics in Europe.

Dr. Everett I. Evans,

Of the Surgical Department of the Medical College of Virginia, has been elected a Consultant to the Army Medical Library.

The American Goiter Association

Will hold its 1951 meeting in the Deshler-Wallick Hotel, Columbus, Ohio, May 24-26, under the

presidency of Dr. T. C. Davison of Atlanta. The program for the meeting will consist of papers dealing with goiter and other diseases of the thyroid gland, dry clinics and demonstrations. Further information may be obtained from the corresponding secretary, Dr. George C. Shivers, 235 Ferguson Building, Colorado Springs, Colorado.

The Virginia Society of Ophthalmology and Otolaryngology

Will hold its thirty-second annual meeting at Hotel Roanoke, Roanoke, on Saturday, May the 12th. Dr. Charles A. Young of Roanoke is president and Dr. P. N. Pastore, Richmond, secretary-treasurer.

Dr. A. C. Broders,

Recently of the Mayo Clinic but who for a time was connected with the Medical College of Virginia, Richmond, has moved to Temple, Texas, where he is associated with the Scott and White Clinic.

Dr. John S. Williams,

Who had practiced in Hopewell for about five years, left in February for Dade City, Florida, where he has accepted an offer to become medical director for the Pasco Packing Company in that city.

The American Dermatological Association

Will hold its next annual meeting at the Homestead, Hot Springs, Virginia, May 23-26. This promises to be a meeting of unusual interest as it is the Diamond Jubilee observance of the founding of the Association.

The American Congress of Physical Medicine

Will hold its twenty-ninth annual scientific and clinical session September 4, 5, 6, 7 and 8, 1951 inclusive, at the Shirley-Savoy Hotel, Denver, Colorado. Scientific and clinical sessions will be given on the days of September 4-8, 1951. All sessions will be open to physicians and other professional personnel. In addition to the scientific sessions, the annual instruction seminars will be held September 4-7. These seminars will be offered in two groups. One set of ten lectures will consist of basic subjects and attendance will be limited to physicians. One set of ten lectures will be more general in character and will be open to physicians as well as to therapists, who are registered with the American Registry of Physical Therapists or the American Occupational Therapy Association. Full information may be obtained by writing to the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

Office Space for Rent.

Doctor's or dentist's office available immediately, corner of Harrison and Franklin Streets, Richmond. Call 5-4397. (*Adv.*)

OBITUARIES

Dr. Lawther Jackson Whitehead,

Well known Richmond physician, died February 26, after a long illness. A native of North Carolina, he was fifty-nine years of age and a graduate in medicine from the Medical College of Virginia in 1916. During World War I he served with the Medical Corps of the Army in France, with the rank of captain. In 1919, he located in Richmond, where he was associated with Dr. D. D. Talley. He was a member of the Richmond Academy of Medicine, the Medical Society of Virginia, the American Medical Association, and the American Roentgenological Association. His wife and a daughter survive him.

Dr. Edward Gill Face, Jr.,

Richmond, died March the 6th, having been in ill health for sometime as the result of an automobile accident. He was a native of Norfolk and thirty-four years of age. After graduation from the University of Virginia in 1941, he interned at the New York Post-graduate Hospital, before entering the army in which he served with the rank of captain. He was a member of the Medical Society of Virginia. His wife and a daughter survive him.

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GUEST EDITORIAL

ACTH and Cortisone

THE pituitary adrenocortical system has received widespread attention during the past two years, following the report from the Mayo Clinic that ACTH (pituitary adrenocorticotropic) and cortisone are powerful hormonal substances for the treatment of certain disease states. Already numerous clinical reports have indicated that these substances are capable of inducing a number of metabolic, hormonal, psychological and other effects, some of which are favorable, others unimportant, while others are distinctly dangerous to the patient.

Although the exact mechanism of action of these hormones is unknown, we may for practical purposes assume that the cortical hormone plays a general supportive, rather than an initiating role in bodily processes. Its actions are determined largely by the functional status of the cells themselves, as illustrated by the cortical hormone's ability to promote water retention or diuresis, sodium conservation or excretion, inhibition or accentuation of glycogen utilization, and anabolism or catabolism. This behavior of the adrenal cortex is governed in part by other members of the system, in that the adrenal gland is stimulated to greater activity by the secretions of the pituitary (ACTH) and in turn the adrenal influences the pituitary by the blood level of cortical hormone (cortisone or cortisone-like substances) which it releases into the circulation. Thus, the titre of cortical hormone in body fluids appears to play a major role in this entire performance. A normal pituitary adrenocortical system does not allow an organism to be subjected to a plethora of cortical hormone, but, at times of stress (trauma, infection, burns, starvation, exposure, exercise, etc.) rapid changes occur in the blood and the amount of hormone required to maintain a steady state in the body depends on the extent and duration of the stress. Hence, with the administration of cortisone, or ACTH in the presence of adequate adrenocortical reserve there occurs an increase in blood concentration of cortisone. It would appear therefore that the favorable results obtained with these substances represent, in part, a state of hyperadrenocorticalism, since there is no apparent evidence of endocrinological deficiency in these cases. However, the prolonged use of ACTH and cortisone may lead to a decrease in activity of the pituitary and adrenal respectively. Hence, the rationale of alternating these hormones in cases requiring long term therapy.

ACTH and cortisone have been employed with varying degrees of success in various mesenchymal, metabolic, allergic, neoplastic and infectious disease states. As yet, there is no evidence suggesting that these substances act as specific therapeutic agents, but rather give rise to certain physiological and pharmacological alterations in the tissues. The two drugs are comparable in effectiveness, with the exception that ACTH is preferable to cortisone in the treatment of gout and asthma. In general, the best results have been obtained in those conditions requiring short term administration, such as status asthmaticus, gout, acute rheumatic fever, gold toxicity, penicillin skin reactions, and certain acute infections of the eyes. Chronic diseases, such as rheuma-

toid arthritis, requiring prolonged administration, will often relapse soon after ACTH or cortisone therapy is stopped. The transient relief of pain and sense of well-being afforded by the use of these drugs in such conditions frequently leaves the individual mentally, physically, and financially depleted. It would seem, therefore, that these substances should not be employed in chronic diseases, such as rheumatoid arthritis, except as a last resort and then in conjunction with other accepted forms of therapy.

Thus far, it has been difficult to have fixed dosages, as the needs vary in each individual case. Males seem to tolerate greater doses and longer administrations than females, especially those in adolescence or menopause. It appears that intermittent administration, or interrupted alternating courses of these hormones may provide a more physiological response than the use of either given continuously to the limits of individual tolerance. The smallest effective dose intermittently is the best guarantee against side effects. Not infrequently, the withdrawal of either ACTH or cortisone will give rise to untoward effects which are probably manifestations of a temporary reduction of adrenocortical function.

As indicated, the use of ACTH and cortisone is not without certain untoward reactions, many of which are troublesome, others are more severe, and some may prove fatal. Certainly, every precaution should be taken to keep these reactions at a minimum. One should not employ these drugs without proper knowledge of the adrenocortical reserve and a constant surveillance of the electrolytic balance of the body. The prophylactic administration of potassium chloride, a diet low in salt and high in protein, and a close watch on the patient's weight, cardiovascular system, and personality behavior is indicated. Also, the use of other hormones in combination, such as estrone to minimize possible menopausal symptoms, or testosterone for nitrogen deficiency, is worthy of trial. The judicious use of mercurial diuretics is of value for the control of edema due to salt retention. In addition, ACTH and cortisone should not be employed in patients suffering with congestive heart disease, coronary artery disease, acute and chronic nephritis, tuberculosis, peptic ulcer, hyperthyroidism, liver disease, sickle-cell anemia, or in individuals with an unstable emotional set-up. Furthermore, caution should be exercised in individuals with essential hypertension, diabetes mellitus, and in all patents over fifty years of age, especially women. It is to be remembered that ACTH and oral cortisone are not without antigenic properties and their repeated administration may give rise to serious anaphylactoid reactions. Although ACTH and cortisone have been used in a number of infectious diseases, it is well to point out that they may effect the antigen-antibody formation and hence retard recovery, whether they are used alone or in combination with appropriate antibiotics. It is possible that this suppression of antibody formation accounts for the unexplained drop in temperature and increased sense of well-being accompanying the unrestrained multiplication of bacteria in the tissues of individuals suffering with pneumonia and typhoid fever in which one of these hormones is employed. Abscess formation at the site of injection of these substances will occasionally occur and, even with large doses of antibiotics, such an infection has proved fatal. Furthermore, the increased susceptibility to upper respiratory tract infections in individuals receiving ACTH or cortisone may be explained on this basis.

Whether ACTH and cortisone were prematurely released for general use is, at this time, seriously questioned. No doubt many patients have been benefited, but large quantities of these agents have been inadvisably used with tragic results in some instances. Furthermore, the present day shortage of these substances might well have been averted, had the supplies remained in the hands of responsible investigators in

order that they be permitted to pursue further their studies in this relatively unexplored field of medicine. No doubt many hidden metabolic secrets will be revealed as a result of the use of these hormones, new operations will be made possible, such as adrenalectomy for hypertension and these drugs will undoubtedly be used as diagnostic agents, as in the differentiation between Loeffler's syndrome and tropical eosinophilia. Furthermore, it is within the realm of possibility that such conditions as prostatic hypertrophy and other glandular disturbances may be eradicated without the use of surgery. To be sure, the future of these substances remains uncertain, but one may feel reasonably sure that the mechanism of their action will prove a greater contribution, of far more significance than is implied in their present dramatic therapeutic role. However, until that time has arrived, we must content ourselves with the knowledge that these powerful hormonal substances should not be used without proper respect for their potential dangers and, regardless of their effectiveness, they are not to be employed to the neglect or exclusion of other well established forms of therapy.

Finally, the intelligent use of ACTH and cortisone calls for a careful clinical appraisal and a diagnosis which should, like the horse, precede the cart whose load of miracle drugs is getting heavier each day.

Harrison F. Flippin, M.D.

Dr. Flippin is Associate Professor of Medicine, Schools of Medicine, University of Pennsylvania, Philadelphia.

Floral Eponym

Rafflesia

Joseph Arnold (1782-1818)

Sir Thomas Stamford Raffles (1781-1826)

RAFFLESIA is a small genus of Malaysian stemless, leafless plants. The hugh flowers grow parasitically on the stems of various species of *cissus*. The flower of R. Arnoldi is the largest known and often attains a diameter of 3 feet and a weight of 15 lbs.

Joseph Arnold, M.D. was born at Beccles and graduated in medicine at Edinburgh (1807). He was a surgeon in the British navy and accompanied Sir Stamford Raffles on his journeys through Sumatra. He died in Sumatra of fever contracted on his explorations.

Sir Thomas Stamford Raffles was born at sea off Jamaica. He is spoken of by Singer as the greatest colonial administrator. He was Lieutenant-Governor of Java and secured Singapore for the British. He recognized the strategic importance of the tip of the Malay Peninsula. The Nepenthes (pitcher plant) Rafflesiana, which he discovered at Singapore, is also named for him. He was an authority on Malayan language, history and customs. He founded the Zoological Society and was its first president. His greatest claim to fame was that he secured for Great Britain the maritime supremacy of the eastern seas.

CARCINOMA OF THE BREAST: RADICAL MASTECTOMY, OOPHORECTOMY AND HORMONE THERAPY

GUY W. HORSLEY, M.D.,
Richmond, Virginia.

With the increased emphasis that has been placed on making an early diagnosis in all types of cancer, it seems fitting to review briefly the methods we have to aid us in the early detection of cancer of the breast and also discuss the treatment of this condition and the results that might be expected by combining surgery, X-ray and hormone therapy. We have made progress in the treatment of cancer of the breast, as statistics from the Health Department and medical clinics will attest. Much of the progress is due, however, to earlier diagnosis of the condition, although some of the advances, especially in the younger patient, can be attributed to the improved methods of treatment. It is now a well-established fact that hormone therapy has a permanent place in the treatment of this condition, both in primary carcinoma of the breast cases, and especially in the late and recurrent cases.

The diagnosis of cancer of the breast should not be difficult, and should always be early if a few simple rules are followed. The earliest symptoms are a lump or small mass in the breast, or an abnormal discharge from the nipple. Unfortunately, the patient frequently delays coming to the doctor until the mass has increased considerably in size and possibly metastasized. Education of the public is very rapid, and breast lesions are now being seen by the doctor earlier than ever before. Robbins *et al.*, in reporting experiences at Memorial Hospital in New York, found that in cancer of the breast there was almost 50 per cent reduction between 1946 and 1948 in the delay of time from the first symptom and the first visit to the doctor. This is most encouraging. It is the duty of the physician who first sees the patient to start her on the road of proper treatment.

Breast lesions may be divided into three classifications:

(1) Lesions which are more like thickened breast tissue than an actual neoplasm. In such cases a short period of close observation is justified, such as in mastodynia and chronic cystic mastitis which are frequently seen in young women in the premenstrual period.

(2) Lesions which are obviously neoplastic, but do not resemble malignancy. In these cases the future can be safeguarded only by an adequate biopsy and removal of the lesion. Proper preparation is essential so that a radical operation can be carried out under the same anesthesia if the lesion is found to be malignant.

(3) Lesions which are obviously malignant. The signs and symptoms of this third classification are well known to everyone, and the diagnosis here is no problem. It is the proper recognition of the first two followed by early treatment that will result in a larger percentage of five-year survivals and complete absence of recurrence.

Needless to say, any definite lesion, even though obviously benign, should be removed and examined microscopically while the patient is still under anesthesia. The indefinite thickened areas of breast tissue which are painful and seem to swell just before menstrual periods are in all probability mastitis and warrant careful watching for several subsequent menses. During this time all pelvic inflammation should be cleared up, the patient should wear a good breast support and apply heat to the painful area of the breast twice a day. The judicious use of progesterone or androgen in certain cases may be justified. None of these treatments should be used if there is a definite discrete mass, but only when there are thickened and painful areas of breast tissue. If after this supportive treatment the thickening and pain have not subsided, then a biopsy should be performed.

Abnormal discharge from the nipple is one of the most urgent signs for consultation. In practically all of these cases the discharge is due to some neoplasm. Donnelly, in reviewing 219 such cases, found that 45 per cent were caused by a malignant lesion, 30 per cent by intraductal papilloma, 22 per cent by chronic cystic mastitis, and only 3 per cent by other causes, such as retention cysts, galactocele and in-

Presented at the annual meeting of the Medical Society of Virginia at Roanoke, October 10, 1950.
*From the Surgical Department, St. Elizabeth's Hospital, Richmond, Virginia.

flammation. He also noted that while sanguineous discharge was most frequently seen to come from malignant conditions, malignancy was also found in many cases that had serous or yellow drainage. From personal experience, and reports such as Donnelly's, it is apparent that any discharge from a non-lactating breast, whether a mass is palpable or not, deserves immediate attention and no temporizing treatment should be countenanced.

Now, a word about biopsies. It is my firm belief that no biopsy should be done on a breast lesion until the patient has been properly prepared for a radical operation, for, if such an operation is necessary, it should be done under the same anesthesia. Time and again it has been shown that delaying the radical amputation after biopsy, even a day, results in a higher percentage of recurrence of the malignancy. Some investigators report that delaying the radical operation after biopsy has increased the rate of recurrence as much as 15 per cent. I do not favor aspiration biopsy in breast lesions. Microscopic review of many of the early cases of carcinoma will show localized areas of mastitis which could be easily misleading in aspiration biopsy. The gross appearance and feel of the lesion are a valuable aid in diagnosis and are not available in the needle biopsy. Aspiration biopsy is only about 85 per cent to 90 per cent accurate in the most expert hands, and, if negative, an open biopsy will usually be required. Therefore, we believe this latter type of biopsy is unquestionably the one of choice.

If at biopsy malignancy is found, the wound should be completely closed and the radical operation started after a complete new preparation of the skin and change of drapes, gowns, gloves, and instruments. In making the biopsy incision, it is best to make it directly over the tumor, and if the tumor is small and discrete, the entire tumor should be removed with a small margin of normal breast tissue. If the tumor is benign, no further incision is necessary and the operation is complete after closure of the wound. The biopsy incision should never be used as part of the incision of the radical amputation, but it should be excised along with the skin and breast and underlying structures. Ideally, the biopsy incision should be in the center of the skin removed at the radical operation.

Once the diagnosis of malignancy has been made, a radical operation should be carried out without delay. There is almost complete unanimity of opinion that a radical amputation of the breast in those cases which do not have remote metastases is the treatment of choice. Obviously in a patient with metastasis to the bones or the lungs, such an extensive operation would be contra-indicated. In cases that are apparently malignant before operation, in addition to the routine history, laboratory studies, and physical examination, an X-ray examination should be made of the ribs and lung fields to rule out the possibility of metastasis in those regions. In all cases, except those with severe systemic diseases and distant metastases, a properly executed radical amputation of the breast seems to give the best end-results, particularly when combined with X-ray and hormone therapy. In recent years there have been only one or two authors who claim that in their clinics results equal to those obtained by radical amputation have been obtained by simple amputation followed by intensive X-ray therapy.

McWhirter, in reporting on 1,334 cases from Scotland, showed a five-year survival of 43.75 per cent in 218 of these cases, with 62 per cent five-year survival in Stage I—that is, carcinoma limited to the breast—, and 29.0 per cent five-year survival in Stage II—those with metastasis to the axilla. He reported in all cases 56 per cent localized entirely to the breast and 44 per cent showing metastasis. H. G. Bell in 1949, reporting on 819 cases, gave a 32.2 per cent five-year survival and operative mortality of .8 per cent. There was a five-year survival of 61.8 per cent in Stage I and 39.8 per cent in Stage II. MacFee reports essentially the same results. Both of these latter authors state there is no apparent difference in the results on patients who had pre- and postoperative radiation and those who had no radiation whatsoever. The results that McWhirter reports with simple amputation followed by X-ray have not been experienced by investigators in the United States and Canada.

I shall not attempt to describe radical amputation in this paper. Suffice it to say that it should include removal of all of the breast tissue and its overlying skin, with the division of the pectoralis major and minor muscles close to their insertion, and careful dissection of the axilla with its nodes and contents, leaving only the larger vessels and nerves. However, if these latter structures are involved, one should not hesitate to include them in the dissection. The

dissection is carried medially to the midline so that the fascia over the sternum and a small margin of the fascia of the opposite pectoral muscles is included in the dissection. It then extends downward to include the upper portion of the fascia of the two recti muscles, laterally to the latissimus dorsi muscle, and to include part of its fascia and the fascia over the serratus anterior muscle. In our opinion, the majority of these cases can be done by careful undercutting of the skin flaps, leaving a minimal amount of subcutaneous tissue attached to the flaps so that the wound can be closed under moderate tension but without skin grafts. It has been found advisable to make small stab wounds in these skin flaps which give more relaxation and also prevent venous congestion. A rubber tissue drain is placed in the lower angle of the wound and a catheter is placed in the axilla and brought out through a stab wound in the outer flap. The wound is first dressed with one strip of vaseline gauze and over this is applied an abundant firm dressing. Suction is placed on the catheter at intervals. This causes a collapse of the dead space in the axilla, and since using this method we have found there has been less drainage and the wounds have healed more readily. It has been our impression that in keeping down the collection of serum in the axilla by this catheter, there have been fewer cases of postoperative edema of the arm.

In those patients who have microscopic evidence of metastasis in the axilla we have followed the practice of giving postoperative radiation over the areas of metastasis, but we have not given postoperative radiation in those cases where the malignancy was confined to the breast.

Estrogen has a stimulating effect on both normal and malignant breast tissue. It has been shown that large doses of estrogen will produce breast cancer in experimental animals. On the strength of these facts, in 1937 surgical castration on patients with carcinoma of the breast in the premenopausal period was begun by the late J. Shelton Horsley and has been carried on up to the present by us at St. Elizabeth's Hospital. The results have been so encouraging that within the past few years we have extended surgical castration to persons who have had the menopause within the past two years. These cases are too recent from which to draw any conclusions but are satisfactory enough to warrant continuation of this plan. Also since April, 1948, all patients who have surgical castration at the time of operation are given androgens daily for two weeks on the theory that this will immediately counteract the effect of the estrogens which are left in the body after castration. The theory and our reasons for doing surgical castration in premenopausal patients with carcinoma of the breast have been given in former papers (Bilateral Oophorectomy with Radical Operation for Cancer of the Breast, by J. Shelton Horsley, *Surgery,* **15**:590-601, April, 1944; and Treatment of Cancer of the Breast in Premenopausal Patients with Radical Amputation and Bilateral Oophorectomy, by Guy W. Horsley, *Annals of Surgery,* **125**, No. 6, June, 1947). Much to our gratification this practice of castration seems to be accepted and is definitely on the increase.

Whenever we speak of this procedure, the question of menopausal symptoms is brought up. We follow all these cases carefully for years and there have been very few symptoms which could be attributed to the removal of the ovaries. If the patient's condition is very carefully explained to her, then the postoperative period is usually uneventful. The few menopausal symptoms can usually be controlled with mild sedatives; but, if they continue, the judicious use of androgens either by mouth or injection has been able to allay all symptoms. Under no circumstances, should estrogens be used in these cases. Unfortunately, I have seen one case, and Farrow reports several cases, in which estrogens were used on the postoperative management of cases with carcinoma of the breast, and in each case it has seemed to "set them on fire" with rapid and overwhelming metastases.

It is fairly well known now that castration in the adult female often does not alter libido, and this has been found to be true in our series of cases. Each case has been carefully questioned on this point, and no definite change has been noted by any one of them.

From January 1, 1937, to July 1, 1950, there have been 266 patients admitted to St. Elizabeth's Hospital for carcinoma of the breast, and all but one of these has had some type of mastectomy. That one case was too advanced even for a simple mastectomy and a biopsy was done for diagnosis. The patient was given X-ray therapy and died eleven months later from the malignancy. All of the other cases had radical amputation or simple mastectomy, and there were only three postoperative hospital deaths. One patient died in 1939 from bronchopneumonia 25

Table I—Carcinoma of the Breast
St. Elizabeth's Hospital, Richmond, Virginia
January 1, 1937 - July 1, 1950

		Living and well	Living with metastasis	Died with recurrence	Died from other causes	Incomplete follow-up
Total cases	266	151 (56.7%)	3 (1.1%)	83 (31.2%)	16 (6.01%)	13 (4.88%)
Oophorectomy	55	35	2	15	1	2
Without metastasis	26	21	0	5	0	0
With metastasis	29	14	2	10	1	2
Non-oophorectomy	211	116	1	68	15	11
Without metastasis	113	78	0	20	8	7
With metastasis	98	38	1	48	7	4

days postoperatively, another in 1939 from pulmonary embolism which occurred just as the patient was dressing to leave the hospital 20 days postoperatively, and the third in 1945 from thrombosis of the axillary vessels with sepsis 14 days postoperatively. All three of these patients had had radical amputation of the breast. In these 266 cases there were only 41 simple amputations, and with the one case with only a biopsy there were 224 radical amputations. The simple amputations, which included complete removal of the breast and overlying skin and also the fascia of the pectoralis major muscles, were done mainly as a palliative procedure, either because the lesion was breaking down and ulcerating, or because there were extensive metastases and complete removal of the malignancy was out of the question, or because there was general debilitation of the patient. All cases have been included and have been divided into only two classifications—those with the lesion confined to the breast and those with metastases outside of the breast, there being no effort made to divide and break up the classification of metastasis. If the obviously inoperable cases had been eliminated from those classified here as "with metastasis", the incidence of survival would be higher.

In Table I there is a break-down on all cases, showing the total of 266, of which 151 (56.7 per cent) were living and well on July 1, 1950, and 3 (1.1 per cent) were living with known metastases. There were 83 (31.2 per cent) dead from metastases or recurrence of the disease, and 16 (6.01 per cent) who died from causes other than cancer of the breast or its metastases. There were only 13 (4.88 per cent) cases whose follow-up was incomplete and the results are not known. There were 139 cases without metastases and 127 with metastases. During this period there were 55 cases who had surgical castration and in these cases more than 50 per cent had metastasis at the time of operation, but, even so, 35 were alive and well. The Tables show that almost half (48.2 per cent) of those who had metastases and were castrated were alive and well, while in the older age group of the same type only 38.8 per cent were alive and well.

It has been the custom to judge results of cancer treatment by the five-year survival rate. This is a good standard, but we all know that after five or even ten years there are recurrences. Recently there was a death from recurrence of breast cancer in a patient who had been operated upon 23 years pre-

Table II—Carcinoma of the Breast
St. Elizabeth's Hospital, Richmond, Virginia
January 1, 1937 - December 31, 1945

Five-year Survival Cases

Total		Five-year survival		Died from recurrence		Died from other causes*		Incomplete follow-up	
		Without metastasis	With metastasis	Without metastasis	With metastasis	Without metastasis	With metastasis	With metastasis	Without metastasis
All cases	189	82 (85.5%)	38 (44.7%)	12	42	2	5	4	4
Non-oophorectomy	152	66 (83.6%)	26 (39.4%)	11	36	2	4	4	3
Oophorectomy	37	16 (94.1%)	12 (63.2%)	1	6	0	1	0	1

*This includes all hospital deaths which totalled 3; 1 in 1939 from bronchopneumonia 25 days postoperatively, 1 in 1939 from pulmonary embolism 20 days postoperatively, and 1 in 1945 from thrombosis of axillary vessels with sepsis 14 days postoperatively.

viously. The recurrence was both local and into the chest cavity. For comparison of results obtained, the five-year period seems to be accepted as the standard. In Table II the results from our cases may be observed, but it should be noted that we state five-year survivals and not cures. Unfortunately, many of these living at five years may die of recurrence.

There were 189 cases who had been operated upon for five years or more, and of these 37 had had oophorectomies. Of those who did not have metastases, 82 (85.4 per cent) are alive and well, and of those who had metastases 38 (44.7 per cent) are alive and well. Of the 37 who had oophorectomy 17 did not have metastases and 16 (94.1 per cent) were alive and well, while 20 had metastases and 12 (63.2 per cent) were alive and well after five years. These results are far better than those that were obtained before castration was being done.

SUMMARY

1. By education of both laymen and physicians, the surgeon is seeing carcinoma of the breast much earlier now than five years ago.

2. Any and all breast lesions should have a biopsy and a radical operation carried out immediately if the lesion is found to be malignant.

3. Radical amputation of the breast is the recognized treatment of choice in cancer of the breast.

4. Preoperative radiation seems of little value, and postoperative radiation seems to be of value only in those cases with definite axillary metastasis.

5. Surgical castration of patients with carcinoma of the breast who are within the premenopausal period has increased the incidence of five-year survival.

6. Menopausal symptoms have not been a problem in these castrated women, and all have been easily handled without ever resorting to the use of estrogens.

7. Androgens are useful in the control and treatment of cases with bony metastases, reducing the size of the metastases temporarily and helping control pain.

8. Under no circumstances should estrogens be used unless the patient is at least sixty years of age and fifteen years past menopause. Even then they are only of doubtful value in soft tissue metastases.

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DISCUSSION

DR. HUGH H. TROUT, JR., Roanoke: I regret very much that Dr. Horsley could not be here. He and his father, as you all know, were amongst the first to start surgical castration in the treatment of carcinoma of the breast; and this theory, while not entirely accepted throughout the country, has certainly been given national recognition.

I do not know whether there is any great advantage in surgical castration over irradiation castration. There could well be. Dr. Horsley's results are certainly excellent and I believe that only time will tell whether surgical castration eliminates something that irradiation castration does not. I do not know.

It has been our practice to give irradiation castration in all premenopausal carcinomas of the breast unless there is some complication such as a pelvic tumor or pregnancy. In these cases surgical castration rather than irradiation is given.

I would like to emphasize again Dr. Horsley's warning about the use of hormones in the treatment of breast conditions, whether it is chronic mastitis or mastodynia. Progesterone given before the menstrual period in severe cases of chronic cystic mastitis is probably justifiable in certain cases and gives as good or better results and is much safer than theelin.

Dr. St. Johns and others have been treating late cases of carcinoma of the breast with testosterone for several years now and that work has been generally accepted; and I think all of us who have used this have been most gratified by the subjective and in many cases striking objective improvement in the condition of a patient suffering from carcinoma of the breast.

In connection with cancer of the breast there is one question that comes to mind, and that is, should we operate on all these patients? Haagensten and Stout have brought out their criteria of operability which I would like to give you.

First, when carcinoma is one which develops during

pregnancy or lactation; second, when extensive edema of the skin over the breast is present; third, when secondary nodules are present in the skin over the breast; fourth, when distant metastases are present; fifth, when there is edema of the arm; sixth, when the carcinoma is of the inflammatory type, and, seventh, when any two or more of the following are present: ulceration, edema of the skin, fixation of the tumor to the chest wall, axillary nodes measuring 2½ cc. and more, or fixed axillary glands.

I do not think that we can apply these criteria too strictly, and yet, perhaps, if we did limit a few of our cases, the results in those cases might be better than if the patient were subjected to operation, and, in addition, the public might become more amenable to the idea of operation. It is becoming increasingly rare, however, for a patient to refuse the proper therapy.

Dr. Horsley's paper was certainly a thorough one and I agree with him in just about everything he said; and it is our practice to follow out more or less the same therapy, the one exception that I can think of is that we do give post-operative irradiation in all cases on the theory that it might do some good, and it is not going to do any harm except slightly increase the financial burden and time for the patient, and that is well worth it to the patient.

Bibliotheca Obstetrica

Varandaeus, Joh. (1563-1617)

Posthvmvs/10. Varandeei/ Monspeliensis medici/ primarii. consiliarii/ atque adeo professoris regii/ in Vniuersitate, ex Bibliotheca/ ipsius depromptus, atque/ in lucem editus/ *De morbis & Affectibus mulierum.*/ Opera Petri Mylaei doctoris medici./ Hvic accessit brevis, facilis,/ *& particularis epilepsia, podagra, hydrop*/ & lepra curatio./ Lugdvni,/ Sumptibus Bartholomaei Vincentius/ M.DC.XIX./ *Cum priuilegiis.*/

Present day interest in Varandaeus is due solely to his being reputed to be the first to use the word *eclampsia* as the name for puerperal convulsions. F.Bernhart (*Wien. klin. Wchnschr.* **52**:1009,1939) makes the positive statement that Varandaeus in the introduction of his *De Morbis & Affectibus Mulierum,* 1619, used the word eclampsia in its present meaning. I have a microfilm of the title page, table of contents, the introduction and chapter VII, *De uteri suffocatione* of the first edition which is in the Army Medical Library. I can find nothing about eclampsia therein. Dr. James V. Ricci has searched the New York Academy of Medicine's copy of the second edition with like results.

Very little is known about the author. A teacher of medicine at Montpellier at the end of the 16th and beginning of the 17th Century, he was born in the City of Mimes, studied and received his degree at Montpellier (1587), became in 1590 the successor of Nicholas Dortoman, Dean of the faculty in 1609 and vice-chancellor and died as dean, August 31, 1617. He was an extraordinarily beloved teacher. After his death his pupils published several of his original MSS. and lectures. In 1658 Henry Gros, a physician of Lyon, gathered these together under the title "Joanius Varandali, Opera Omnia and fidem codicum ipsius autores manuscriptorum recognita et emendata, etc." This, however, lacked the treatise on Elephantiasis (Astruc. Mémories, p. 251 in Biogr. méd. VII p. 397, Dict. hist. IV. p. 308)

Mylaeus, or van der Myle (Petrus) commonly called Rota, a doctor of Löven, fl.1612 was blind and lame. He edited in 1619 Joh. Varandii Tract. posthumum de morbis & affectibus mulierum. (Jöchers Gelehrten Lexicon)

STENOSIS OF THE ANUS OF FUNCTIONAL ORIGIN—HABITUAL USE OF LAXATIVES*

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In the course of examining patients with rectal and pelvic complaints a certain number are found who have an anal lumen so small that digital examination of the rectum is difficult or even impossible. The difficulty is not due to sensitiveness and spasm, such as that associated with anal fissure, but represents a completely inelastic stenosis apparently caused by fibrosis of the sphincter or the sphincter region. During a period of about twelve years 90 private patients have been treated for this condition. In many instances the results were so dramatically successful that a study of the whole group seemed desirable.

No attempt has been made to comb medical literature for similar studies. Only one article of similar subject matter will be cited. Newton and MacGregor reported 21 cases apparently quite similar to those of the present report. They stated that although spasm and fibrosis of the anal sphincter constitute a frequently observed clinical entity, little has been written about it.

The patients presented many and varied complaints. Abdominal discomfort, ano-rectal symptoms and constipation, singly or in combination, were commonest. All of them gave a history of using laxatives or enemas or both for a long time, frequently many years. Mineral oil alone or in various mixtures was one of the commonest laxatives employed. Women outnumbered men in the group, five to one. Practically all were over thirty years of age and most over forty but under sixty.

Almost always the onset of the trouble had been insidious. An occasional laxative had led gradually to frequent laxatives and finally a laxative daily or oftener and sometimes supplemented by enemas. Many patients stated they had not passed a formed stool or had a spontaneous defecation for many years.

In many, the prolonged use of laxatives or enemas or both had led to considerable irritability of the colon. "Colitis", "mucous colitis", "spastic colon", "irritable colon" and other similar designations of their symptoms were used by various patients. Some tenesmus, passage of mucus and even of blood, abdominal pain and sometimes severe abdominal cramps seemed to be the result in some cases.

Examination of the patient was, with few variations, similar in all instances. There was a small anus that was little if any more than 1.0 to 1.5 cm. in diameter, admitting no more than the examiner's fingertip. In a few the examination was said to be painful, sometimes markedly so. In the latter group the sphincter seemed spastic as well as fibrosed. In all, however, there was palpated an inelastic stenosis of the anus involving the regions of either the internal or the external sphincter or both. Even under anesthesia the inelastic character of the stenosis was always evident, sometimes markedly so. Because of the anal stenosis, digital, proctoscopic, and x-ray examinations were seldom possible before treatment, but were made at the time of or after treatment, as indicated. No case of cancer or other serious disease was later encountered in any of the patients of this series, though one case of rectal carcinoma was found in the series of Newton and MacGregor.

Associated abnormalities were infrequent. There were only a few instances of hemorrhoids of consequence and, similarly, a few instances of rectocele associated with old lacerations of the birth canal. Anal fissure was rare because stools had been kept liquefied by the patients.

The diagnosis was obvious in all cases. It was often suggested by the history and finally confirmed when digital examination was made or attempted.

Since no tissue was excised in any instance, the pathology must be, for the most part, a matter of conjecture. Among the patients of Newton and MacGregor, however, the entire anus was excised and studied in one case. The only abnormality demonstrated microscopically was a moderate amount of fibrosis of the subcutaneous tissue, most apparent in relation to the internal sphincter.

From the Department of Surgery and Gynecology, University of Virginia Hospital, Charlottesville, Virginia.

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 8-11, 1950.

Treatment was the same in all instances, digital dilatation of the anus under either general or subarachnoid block anesthesia followed by certain directions given the patient to follow. From the time the condition was first recognized, twelve years ago, it seemed evident that physical measures must be employed to correct it. Digital dilatation under anesthesia seemed to offer the most painless, the quickest and the best method. Experience has confirmed this impression.

In the uncomplicated case the person was treated as an out-patient in the operating room. In most instances nitrous oxide-oxygen anesthesia by inhalation was employed. Induction was rapid, the duration short, and recovery quick, so that patients usually returned home from the recovery room within the hour. The dilatation itself was done with plenty of lubricant and a rotary manipulation of the gloved fingers. First one, then two, and finally three fingers were introduced as far as the proximal interphalangeal joints, dilating the anus to a diameter of between 3 and 4 cm. No sphincter incision was made in any case and no serious rupture or tear of any sphincter occurred. Superficial mucosal cracks were evident in all instances and localized small hematomas at the anal margin were not uncommon. Some were evacuated by a scissor cut into them. Also, associated trouble such as hemorrhoids, rectocele, and so forth, were treated at the same time if indicated. No second or multiple dilatations have been employed subsequently.

Directions for the patient to follow after digital dilatation seemed probably important to avoid recurrence of anal stenosis. Four commandments were issued for immediate and continued use:

1. No laxatives of any kind and no enemas.
2. Some vegetable bulk at both noon and evening meals.
3. Some fruit or fruit juice at each meal.
4. Some fluid, a cup to a glass full, each hour during the day.

Results, both immediate and remote, have been excellent. Pain has not been more than moderate and that for only a very few days. Bleeding has been absent or very slight. Incompetence of the sphincter has resulted for only a few days in only a few patients. Regular defecation has resulted from the treatment in the majority of patients followed for from 6 months to 12 years.

Follow-up letters were prepared for the entire group of 90 patients. Because of change of address and other factors no more than 82 reached their destinations. Of this number 75 replies have been received (91 per cent). Fifty-eight of the 75 (77 per cent) reported restoration of satisfactory bowel activity. No second or multiple dilatations were reported.

Many of those reporting good results wrote enthusiastic letters supplementing their questionnaires. For instance: "As you see I was completely made over by the dilatation, am now 80 years (old) and still going strong—".

Another wrote "I should like to say that I cannot inmagine any operation being more successful than this particular one was in my case. I was taking great quantities of mineral oil daily and over a period of some years I had relied on this completely. Following the operation in 1941 I gave this up completely and followed your advice very strictly. I *never* take a laxative".

Of 17 patients reporting unsatisfactory results, most had had good initial results but all but one had by their own admission, failed to follow instructions. Eight of them have more or less psychopathic personalities with multiple complaints and various fixations in addition to those related to defecation. Several wrote letters supplementing their questionnaires. In most instances after reading the answered questionnaires and the letters it was quite evident why the results of the anal dilatation had been unsatisfactory. Postoperative directions had been imperfectly followed or completely ignored.

Discussion

Many factors such as food, fluids, exercise, habits, and so forth are related to defecation. A stool is composed chiefly of residue left after the digestion of food. The amount of the stool is more or less in proportion to the amount of food eaten except that, in the case of certain foods, absorption is so great that little residue remains. This is true of most liquids and some so-called low-residue foods. The greatest amount of residue is left after the digestion of foods that contain a large amount of cellulose such as many vegetables and fruits do. A useful simile in explaining these facts to patients is a fire. Bulky fuels such as wood and coal leave ashes. Concentrated fuels leave little if any ashes.

My observation of these and other patients leads me to believe that fluid ingested markedly influences defecation. The consistency of the stool apparently varies with the amount of fluid ingested and the amount absorbed from the feces by the intestines, especially the colon. Inadequate fluid intake may be responsible for over-firm or hard or dessicated stools that may be difficult or impossible to pass, even through a normal anus.

The influence of physical exercise and habit on bowel activity may often be marked, but will not be discussed at this time. The factors governing normal defecation unfortunately are not known to patients and are not explained to them by their physicians who themselves do not seem to understand the physiologic processes concerned.

Unfortunately, the laxative manufacturers have made capital of this state of affairs. Low-residue modern prepared foods, sedentary urban life, diminished fluid intake, and lack of adequate or a regular time for defecation all conspire to cause what is commonly called "constipation". Depending on the factors cited above, many individuals might be entirely well and comfortable, yet have a stool only once in two, three, or more days. But the impression has gained almost universal acceptance that anything less than at least one stool a day is "constipation" and "necessitates" a laxative. Thus the vicious circle is initiated, more and more laxative, less and less formed and spontaneous stools, finally complete dependence on laxatives, often stronger and stronger, enemas, constantly liquid stools, anal shrinkage, fibrosis and finally inelastic stenosis which precludes defecation of formed stools and actually does necessitate liquefying laxatives or enemas. Psychogenic abnormalities may play an important role, either primary or secondary, in some instances. This was quite evident in several patients of the present series and probably accounts for nearly half, if not more, of the unsatisfactory results.

The patient who has for months or years prescribed for himself with no other advice than that of his neighbors, his newspaper or magazine or his favorite radio announcer finally, in desperation, consults a physician. The physician all too frequently fails to realize that anal stenosis exists and, although he prescribes adequate dietary measures and possibly even adequate fluid intake, cannot relieve the patient except by the continued administration of laxatives to compensate for the mechanical impossibility of passage of formed stools.

Experience with these 90 patients over a period of 12 years, including many personal interviews and examinations, leads me to the belief that the practical results of digital dilatation of functionally induced stenosis of the anus followed by the recommended management of bowel activity has given even better results than the follow-up letter figures indicate. Some of those necessarily tabulated as poor results were, as mentioned previously, emotionally unstable and inadequate individuals unable or unwilling to follow directions or "discard their crutches". They sought relief less than confirmation of their own convictions of incurability.

SUMMARY AND CONCLUSIONS

In 12 years 90 private patients were treated for anal stenosis resulting from habitual use of laxatives. In 58 of 75 patients recently reporting by letter the results were satisfactory. Treatment was by digital dilatation under anesthesia and subsequent management of food and fluid intake. Failure to follow directions following dilatation and psychogenic dyscrasias seemed to be responsible for most of the unsatisfactory results. In the absence of organic disease of the large bowel, adequate understanding of the factors relating to defecation, reasonable attention to food and fluid intake, and avoidance of the first dose of laxative would probably make the use of laxatives forever unnecessary for insuring normal defecation.

REFERENCE

1. Newton, Francis C., and MacGregor, Chas. A.: Spasm and Fibrosis of the Sphincter Ani Due to Reflex Action. *New England Jour. Med.* **239**:113-115 (July 22), 1948.

DISCUSSION

DR. H. L. ARCHER, Charlottesville: I want to thank Dr. Morton for pointing out to us, as he says, such a lowly subject but one which, as you know, is a very important subject at this time. With their present sedentary life and the concentrated foods that they use, many of the patients whom we see in our offices complain of constipation and other things. Dr. Morton has pointed out the complications which can arise from the use of cathartics; so it would seem a good idea for us to take a little more time and make a rectal examination and take time to outline a routine for more regular bowel movements rather than simply write out a prescription for another cathartic

and let it go at that. Dr. Morton has outlined a good routine for obtaining bowel movements in patients who will take the time to follow it.

I think this may bring out a complication which we have to watch for when doing anal surgery. When there is a fresh wound in the anal canal we all start the patient on some laxative, to promote bowel movements. It is also important, after the wound has healed, to see that the patient stops the use of the laxative, to make sure he will not wind up with a shrunken, narrow anus.

There is one question I want to ask Dr. Morton. With so many people taking laxatives these days, many of them taking them daily and saying they never have a natural bowel movement, why is it that so few of them wind up with stenosis of the anus? Is there anything in the past history of these patients which indicates that in the past they may have had some disease of the anus, such as cryptitis, which was responsible for the narrowing of the anus but which may have healed by the time the examination was made?

I want to thank Dr. Morton for the opportunity of discussing this paper.

Dr. Morton, closing the discussion: I appreciate Dr. Archer's discussion, and I should like to stress again the statement he made in reference to the use of laxatives after anal operations. I think that is a good point. I have seen a number of cases in which the use of mineral oil, particularly after hemorrhoidectomy, has produced anal stenosis.

Dr. Archer's question as to the incidence of previous anal disease is a good one. I cannot, however, answer it. There may be a relation between the anal stenosis and some prior cryptitis. There may be a time element, too. Maybe some younger people have not been taking laxatives long enough, or maybe the period of the popularity of laxatives has not been long enough.

Of course, my series of ninety cases is not a large one. Perhaps this condition does not occur universally in patients who take laxatives, although I begin to think that the use of laxatives perhaps is universal.

Streptomycin to Treat Tuberculosis in Children.

Streptomycin has proved valuable in treating tuberculosis in children under 12, according to an article in the April 7th *Journal of the American Medical Association.*

Drs. William Berenberg, Charles D. Cook and Claire W. Twinam of Boston, authors of the article, tested the drug on 27 children between the ages of 7 weeks and 17 years.

They reported the following results: the disease was arrested in five, 18 were improved, three were unimproved and one was worse. The patient who became worse was a 7-weeks-old infant who developed tuberculous meningitis. All three of the patients who did not improve were over 12 years of age. Eight patients over 12 received the drug but only two appeared to derive any lasting benefit from it. They explained that tuberculosis in children under 12 is somewhat different from the type encountered in adults and children over 12. Most children between the ages of 3 and 12 do well without specific treatment.

The 27 children who received the drug were selected because they failed to improve with the usual treatment.

Streptomycin may be expected to "supplement but not replace" the time-tested measures of prevention of reinfection, hygienic regulation, dietary supervision, adequate rest and nursing care in the treatment of tuberculosis in children.

Aids Hearing Ability.

A surgical procedure known as fenestration has brought increased hearing ability to 70 per cent of a group of deafened patients, reported in the current issue of *Archives of Otolaryngology,* published by the American Medical Association.

The patients were suffering from a progressive type of deafness called otosclerosis, according to Drs. Louis E. Adin, Jr. of Dallas and George E. Shambaugh, Jr. of Chicago, authors of the article. Otosclerosis is caused by bony growth in the passageway which carries sound to the inner ear. Fenestration creates a substitute channel through which sound can enter the ear.

The operation was performed on a series of 390 patients from 1940 to 1945 and results have now been observed from five to 10 years. Seventy per cent of the patients received a "significant hearing improvement and have maintained it." Twenty per cent lost a part of their initial gain but still have a usable level of hearing. Five per cent had no hearing improvement at all and another five per cent had bony closures of the opening.

PRESENT TRENDS OF COLLAPSE THERAPY IN TUBERCULOSIS

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and
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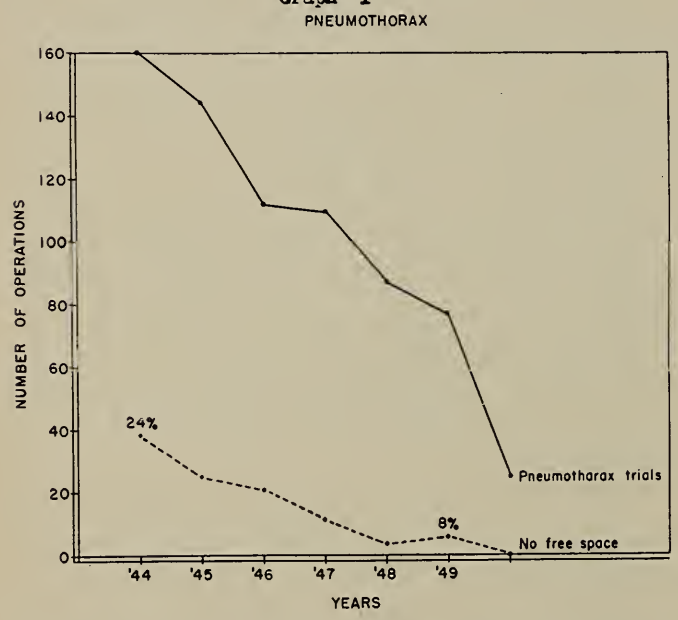
The value of collapse therapy as a supplement to bed rest in the treatment of pulmonary tuberculosis is generally recognized; however, there is little unanimity of opinion as to the proper choice of collapse measures. In recent years there has been a great impetus to the use of artificial pneumoperitoneum. This procedure had been known for a long time but did not become generally used until reports from the various Veterans Administration Hospitals and other sources began to appear. With the increased use of artificial pneumoperitoneum, there have been other changes in emphasis and this paper is intended to illustrate certain trends of collapse therapy at Blue Ridge Sanatorium in the past several years.

This data is based on material gathered from the annual reports of the Sanatorium to the State Health Department covering the six fiscal years between

Graph I

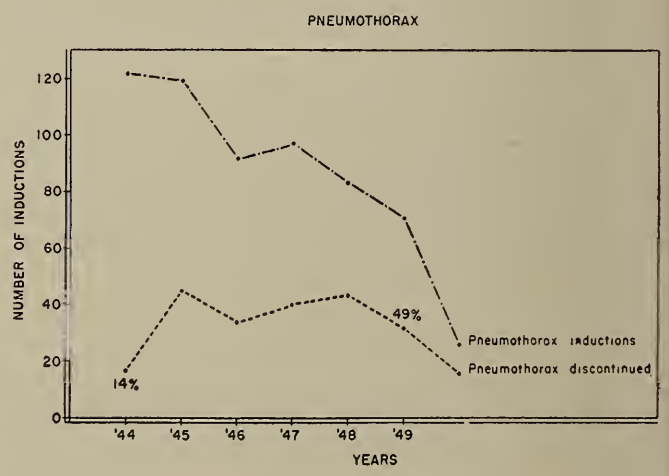


July 1, 1943, and July 1, 1949. It does not show the exact number of procedures carried out in any given year, but represents an analysis of the therapy which had been carried out on discharged patients at some time during their sanatorium stay. Figures are also included for the time between July 1, 1949, and April 1, 1950, the latter having been obtained from our current records.

The first graph indicates the diminished use of pneumothorax. Cases now selected for pneumothorax are rarely encountered in which no free pleural space can be found. There is a definite tendency to avoid even trying pneumothorax on those cases in which there appears to be little hope of obtaining a collapse. Certain absolute contraindications to pneumothorax are recognized. Some of them are: a. large apical cavity, especially if thick-walled; b. very extensive destruction; c. bronchostenosis. Those cases with active bronchial tuberculosis or tuberculous pneumonia may be temporarily or permanently unsuitable for pneumothorax.[1]

As a corrollary to the diminished number to cases selected for pneumothorax therapy, there are relatively many patients on whom refills are discontinued while still in the sanatorium, as is indicated in Graph 2. In 1944, of those patients discharged who

Graph II



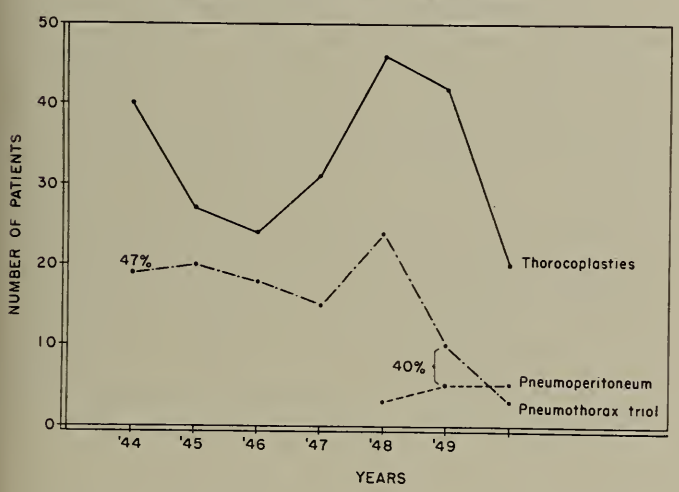
had been tried on pneumothorax, 14 per cent had had their refills discontinued while in the Sanatorium; whereas, in 1949, nearly half of those people who had been started on pneumothorax were stopped while in the institution. Some of the reasons for stopping pneumothorax were: a. persistent fluid for-

1. Rafferty, T. N.: Artificial Pneumothorax—page 41—published by Gene & Stratton, New York, in 1947.

mation; b. gross adhesions which could not be severed by closed pneumonolysis; c. fluoroscopic and x-ray evidence of thickening pleura which was adjudged to threaten future efforts to re-expand the lung; and, d. obliterative pleuritis. Positive pressure pneumothorax is considered hazardous and is practically never continued; this type of pneumothorax is seldom seen in the absence of one or more of the complications just outlined. The unexpandable lung necessitating a choice between permanent pneumothorax refills, allowing fluid to fill up the space, or an extensive thoracoplasty to close the pleural space is evidence of an unwise decision to continue a "therapeutically effective but anatomically poor pneumothorax." With this conservative attitude, the incidence of tuberculous empyema complicating pneumothorax at Blue Ridge Sanatorium has been reduced from approximately 15 per cent in 1938 to less than 1 per cent in 1949.

Graph III

PRIMARY AND SECONDARY THORACOPLASTIES

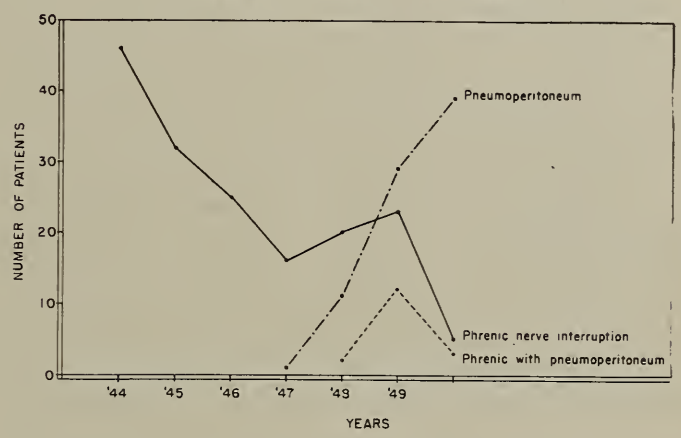


Graph 3 indicates the increasing use of primary thoracoplasties. Those patients presenting one or more of the previously outlined contraindications to pneumothorax comprise the greatest proportion of cases selected for this procedure. It will be noted that in 1944 almost half of the thoracoplasty cases had been previously tried on pneumothorax as compared to about one-fourth in 1949. Another group of patients was tried on pneumoperitoneum in 1949. It is not included in the graph, but it is worth mentioning that for the current fiscal year our records show that 25 per cent of the thoracoplasty group were previously tried on pneumoperitoneum and only 15 per cent were tried on pneumothorax. This gives a further indication of the tendency of pneumoperitoneum to replace pneumothorax as a preliminary procedure in collapse therapy. We wonder if the pendulum is not swinging too far away from pneumothorax? The graph gives a misleading idea of the place thoracoplasty has in the therapy of pulmonary tuberculosis. Other cases which had thoracoplasties and are not included in this graph were admitted to the Sanatorium from the University of Virginia Hospital following operation. The limited number of beds available for surgical patients both at the Sanatorium and the University of Virginia Hospital, where these operations are performed, accounts for this small number.

Pneumoperitoneum is now used extensively at Blue Ridge Sanatorium as at other places concerned with the treatment of tuberculosis (Graph 4). The

Graph IV

PNEUMOPERITONEUM AND PHRENIC NERVE INTERRUPTIONS



relative safety of pneumoperitoneum, the ability to discontinue it or to reinstitute the procedure and its applicability to patients with bilateral extensive disease, unsuitable for other collapse measures, make it attractive to the phthisiotherapist. Herein lies one of its greatest dangers—that of starting or continuing pneumoperitoneum when some other procedure might offer greater benefits. Pneumoperitoneum is often a definitive collapse measure in itself; in other instances it is useful to prepare the patient for some other procedure such as thoracoplasty or even pneumothorax. At this Sanatorium the combination of pneumoperitoneum with phrenic nerve paralysis is used sparingly because of the fear that irreparable damage to the diaphragm might result. The phrenic nerve interruption has assumed a minor role as a collapse measure largely because of the incidence of patients whose diaphragmatic motion is permanently impaired. For this reason the procedure is rarely

used in those who are at all liable to need thoracoplasty at some future date. This policy reflects the attitude of the thoracic surgeons at the University of Virginia Hospital, who believe that a poorly mobile diaphragm interferes with the raising of sputum post-operatively and that with resulting stagnation of secretions spread is an increased danger.

Bronchoscopies, which have more than doubled in use in the past five years, are carried out at the Sanatorium by members of the Thoracic Surgery Department of the University of Virginia. The important role of bronchial disease in the course of tuberculosis is receiving increased emphasis and the availability of streptomycin has resulted in more frequent bronchoscopies in order to study the response of tuberculous bronchitis to this agent.

TABLE I

PROCEDURES	'44	'45	'46	'47	'48	'49	'49–
PNEUMOTHORAX							
Unilateral	100	97	82	75	75	71	26
Bilateral	11	11	5	11	4	0	0
PHRENIC NERVE INTERRUPTION							
Temporary	42	31	24	16	19	23	5
Permanent	4	1	1	0	1	0	0
PNEUMONOLYSIS							
Closed	42	38	42	21	25	19	11

Tables 1 and 2 present the complete figures for the surgical measures discussed in the stated span of time. There were no extrapleural pneumothoraces and only one open pneumonolysis was carried out. There were eleven patients discharged in 1944 who had bilateral pneumothorax inductions, whereas there were none discharged in 1949. At present there is only one patient in the Sanatorium with bilateral pneumothorax. This is a young woman who developed a small thin-walled cavity in the right lung after having had left pneumothorax for several months. Although such patients are often given pneumoperitoneum and pneumothorax, it was decided that bilateral pneumothorax was the procedure of choice and would offer her greater benefits.

TABLE II

PROCEDURES	'44	'45	'46	'47	48	'49	'49–
THORACOPLASTIES (all stages)	40	27	24	31	46	42	20
PNEUMOPERITONEUM	0	0	0	1	11	29	39
PNEUMONECTOMY	0	0	0	1	0	4	0
LOBECTOMY	0	0	2	0	0	1	0
BRONCHOSCOPIES	47	40	22	50	52	99	49

SUMMARY

I. Tables and graphs have been presented to indicate certain changing trends in the collapse therapy of tuberculosis.

II. The incidence of tuberculous empyema has been decreased from 15 per cent in 1938 to less than 1 per cent in 1949. This decrease has resulted from conservative selection of pneumothorax cases as well as a definite inclination to discontinue refills in the presence of certain complications which were listed.

III. There is a definite trend in treating tuberculosis for an increased use of primary thoracoplasties in properly selected cases. Our graphs do not show this so forcefully for the last two years of the report, due to the inability to get the necessary hospitalization facilities for operation on these cases.

New Books.

The following are among new books received recently at the Tompkins-McCaw Library of the Medical College of Virginia. These are available to our readers under usual library rules:

Alpers—Clinical neurology. 2nd edition, 1950.
Annual review of physiology. Vol. 13, 1951.
Association for research in nervous and mental diseases—Multiple sclerosis and the demyelinating diseases. Vol. 28, 1950.
Conn, ed.—Current therapy. 1951.
Davidson—The biochemistry of the nucleic acids.
Delbruch—Viruses.
Ham—Histology.
Harris & Kujawski—Annotated bibliography of vitamin E. 1940-1950.
Hyman—The invertebrates. Vol. II, 1951.
Lilly & Co.—De re medica. 3rd edition, 1951.
Meredith—The science of health. 2nd edition, 1951.
Myerson—Speaking of man.
Pohl—Cerebral palsy.
Snyder—Principles of heredity. 4th edition, 1951.
Woodham-Smith—Florence Nightingale, 1820-1910.
1950-52 Yearbook American College of Surgeons.
1950 Yearbook of neurology, psychiatry and neurosurgery.

SOME ASPECTS OF HUMAN INFERTILITY*

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In discussing human infertility we must first of all state carefully what we mean by the term. The word sterility too often is used to mean lowered fertility and not true sterility. By definition, sterility means, in a human reproductive sense, the complete inability to impregnate or conceive, and is most often due to such gross factors as congenital absence of the vagina, tubes or vasa deferentia, atrophic testes or ovaries, or other congenital omissions or acquired diseased states. Infertility, on the other hand, is the relative inability, in a designated time interval, to permit the complementary responses of the reproductive process in the male and female to attain the end process of reproduction—successful pregnancy.

Infertility is usually considered under two headings: Primary infertility when conception has not occurred after a satisfactorily long time interval of marital life without the use of contraceptives; secondary infertility, when a previous pregnancy occurred but no subsequent desired pregnancy has followed.

In general, and our present statistics are based on this, the criterion of a satisfactorily long interval of marital life without a pregnancy is three years. This concept will surely be modified since it has been almost universal experience that much valuable time is lost waiting for three years before considering a couple infertile and in need of help. Statistically, it appears that about four months is the usual time necessary for normal married couples to obtain a pregnancy, and, for purposes of this author, six months or longer of fruitless effort constitutes relative infertility. The author's own experience in this matter illustrates the change in the concept of the necessary time element, because, when he first became interested in the infertility problem, he considered five years as the acceptable time period. Help is now offered after six months.

It is estimated that about 12 per cent of married couples suffer from involuntary infertility in the United States. That approximates 3,000,000 couples and is no inconsiderable portion of our population. There are increasing numbers of these couples coming to the doctor for help and more will come when the public realizes how much can sometimes be done to overcome relative infertility. The public already recognizes the damage both to the individuals concerned and to the marriage itself by frustrated and fruitless attempts for pregnancy.

It is a general belief that an infertile marriage is due to the woman's relative sterility. Throughout the field of gynecologists interested in infertility, however, a simple ratio seems to hold quite true. In one-third of the cases the fault can be found in the female partner; in one-third of the cases the fault can be found in the male partner; and in the final third of the cases, no definite cause can be found and this group is therefore attributed to the union. It is only recently that the male responsibility has received full recognition. It is difficult to find a single factor which, when corrected, results, in a solution to the infertility problem for any given couple. It is equally difficult to classify the various causes of relative infertility, but most authors feel that the following are the best groupings for classification: Medical factors, surgical factors, endocrine factors, sexual disturbances, and congenital factors.

Medical factors are sometimes more important than one might guess. Dietary deficiencies do exist in this country, even though the dietary regimen seems adequate. These are usually vitamin and mineral deficiencies. Various anemias, emotional states, excessive use of tobacco, alcohol, or drugs, when corrected, occasionally have been the only factors altered to convert relative infertility into pregnancy. It has been shown that little over 20 per cent of male tubercular patients have normal sperm studies, and that under 40 per cent of schizophrenics, feeble-minded, and severe alcoholics have normal sperm studies.

Surgical factors have received much attention in this day of aggressive surgery—perhaps too much attention too early in the care of these patients. These factors are legion in the female, and rarely treated in the male. They may be anything from a vaginal atresia, inflammation of Bartholin's, Skene's, or

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Nabothian glands, cervical stenosis, various flexions of the uterus, and so forth, all the way to afflictions of the uterus, tubes, or ovaries in the female. They are practically limited in the male to the occasional epididymo-vasostomy. The great majority of infertile cases will be found in this surgical group.

Endocrine factors play a minor part in the majority of cases of infertility, as attested to by the large literature decrying the promiscuous use of the various hormones generally available. As an example of this type of criticism Dr. I. C. Rubin is quoted, "Failure to reckon with basic sex hygiene, often the only defect, instead of resorting to hypodermic injections is responsible for many instances of needless prolongation of sterility. . . . Resort to endocrine 'therapy' at once without a thorough and systematic physical examination of the two married partners is altogether too common. . . . Patients who receive repeated hormonal injections although their sterility is due to tubal obstructions are not infrequent. The same may be said for other causal factors of sterility which can be determined if sought for before resorting to hormonal injections."

Follicular phase defects occur in about a fifth of the cases falling into this group, and luteal phase defects in about 70 per cent.

Anovulatory cycles comprise the majority of the follicular phase defects, and inadequate secretory changes in the endometrium make up the majority of the luteal phase defects.

The exact mechanism of the role of the thyroid in fertility is far from clear, yet it is a fact that the majority of infertile men and women have a low BMR. In the endocrine group thyroid medication is the thing with the greatest favorable effect in the treatment of infertility. To the best of our present day knowledge, thyroid seems to prolong the life of the corpus luteum and intensifies its physiologic effect on the endometrium. As pertains to infertility the diagnosis of thyroid deficiency is a clinical and not a laboratory responsibility. In actual practice, the most important diagnostic criterion is the response to thyroid therapy.

The pituitary may well be the site of weakness or deficiency in most of the cases in the endocrine group, and we can but look to the future with hope that the various known pituitary factors may soon be purified or synthesized so that they may be employed in this problem. As of today, that happy state does not exist. In general, from the therapeutic standpoint, only those gross endocrine conditions that are amenable to operation have much prospect of restoring the individual to normal.

Sexual disturbances are frequently mixed up with psychological factors, which relationship is well borne out in the not infrequent case of frigidity and/or dyspareunia which responds so well to psychotherapy. Impotence on the one hand, and sexual over-indulgence on the other comprise the majority of this group.

Congenital factors are numerous in possibility, but not common in practice. Many of them, such as developmental failures, result in absolute sterility, but there are others modifiable sufficiently to permit fulfillment of procreative function. Phimosis, hypospadius, and epispadius are of definite clinical significance because they may result in the deposition of semen in an unfavorable site for conception. Congenital urethral micro-meatus may lead to pain causing withdrawal before insemination. Congenital hernia or acquired varicocele occasionally interfere with the circulation of the testes. Undescended testes rarely produce adequate sperm.

There is no real shortcut to a thorough investigation of the infertile couple, because most cases involve more than just one causative factor. In order to make a workable diagnosis and institute therapy with any hope for a good result one must omit nothing and not stop the investigation if one or several factors are quickly discovered. A routine investigation includes both marital partners. A complete and very detailed history and physical examination initiates the study. This is followed by complete laboratory study of both husband and wife which should include sedimentation rate, BMR, blood cholesterol. The wife must be further studied by vaginal smears for hormonal effect, tubal insufflation and/or hysterosalpingography, endometrial biopsy, post-coital examinations of cervical and vaginal secretions, studies of the basal temperature curves, and examination under anesthesia. Occasionally, hormone assays will be necessary. The further study of the male consists of repeated semen studies and rarely in testicular biopsies when semen studies direct it. Daily vaginal smears for hormonal effects can not be done by the occasional student of infertility because of the high degree of technical knowledge demanded. Similarly, bio-assays must be run by the specialists

in endocrinology with adequate laboratory facilities.

Tubal disease is one of the most frequently encountered causes of infertility or sterility. There are several factors which must be considered when a tubal patency study is to be done. It is known that viable endometrium can be transplanted in the later days of the menstrual cycle, and that in the early phase or proliferation this is not so. Therefore, the insufflation should be timed in the first half of the menstrual cycle. Most of the morbidity following tubal insufflation stems from a flare-up of a genital tract infection, which places a responsibility on the gynecologist for an accurate history and exact interpretation of his physical findings before he performs the test. Similarly a pregnancy is a contraindication which must be ruled out—whether a normally implanted pregnancy or an ectopically placed one. General constitutional disease or any pelvic neoplasms are also contraindications. A simplified Rubin's tests in which no manometric readings can be made is useless and dangerous. There is much general opposition to the use of air for the test since in the early days air embolism occurred, and air peritoneal shock in various degrees of severity is frequently seen today. Carbon dioxide is a far safer gas to use.

The patient's subjective complaints during the test are often quite instructive:

(1) Bilateral lower quadrant pain with steady progressive rise in pressure usually means closure of both fimbriated ends.

(2) Bilateral pain with high but steady pressure usually means bilateral narrowing of the tubes near the fimbriae.

(3) Unilateral pain with slightly elevated pressure means unilateral closure at the fimbria.

(4) Midline pain with slightly rising pressure means bilateral closure at the proximal ends of the tubes, or tubal spasm. When this complaint is made, a second test at a later date may be entirely normal. Whenever a tubal gas insufflation test is not entirely normal, salpingography is indicated, and statistically seems to offer a decided therapeutic advantage to the patient. If the radiopaque medium does not pass through the tubes and pool in the pelvis, it does show the site of tubal blocking and may offer the patient an excellent chance for pregnancy after operation. It may also tell the sad story that surgery will probably not help and thus save the patient an ill-advised operation.

Whereas tubal insufflation and the investigation incident thereto disclose the mechanical obstructions to pregnancy, the greatest single test for hormonal function is the endometrial biopsy. Some authors advocate this biopsy on the first day of menstruation; others prefer a 1-3 day premenstrual biopsy. This essayist discounts the possibility of ruining an early pregnancy by premenstrual biopsy on the grounds that most of these patients are highly infertile or they would not be voluntarily seeking help, and the possibility can be obviated by instructing the patient to abstain from intercourse without contraception during the entire cycle in which endometrial biopsy is contemplated. Endometrial biopsy is an office procedure, in which no anesthesia is needed. The author uses a Novak curet with very satisfactory results. If the tissue is taken from the fundus rather than from the lower segment a better specimen is obtained and the procedure is less painful. Fundal endometrium shows more clearly the effects or lack of effects of progesterone, and it is these effects which explain the fact of ovulation in that cycle. The progesterone effect depends upon the duration and the amount of the steriod acting and on the sensitivity of the endometrium to it. Therefore, a repetition of the biopsy may show differing degrees of response, thereby obviating the necessity for progesterone therapy. With an accurate menstrual history covering a number of successive cycles, it is possible to date the endometrial biopsy from the microscopic study, and thereby more closely identify the time of ovulation—which is one of the most important rewards of suction endometrial curettage. If ovulation is proved by the biopsy, then it is highly important to prescribe intercourse at or about the time of ovulation, as this is the optimal time for fertilization.

Basal temperature charts are quite instructive as to the time of ovulation, but their primary purpose is to evaluate the effect of progesterone, and the luteal phase of the cycle. They serve also as a check on the patient's intercourse habits and serve as a guide to the timing of the Huhner test. Furthermore, basal temperature charts frequently serve to maintain the patient's interest in a study which by it's very nature must be drawn out.

Post-coital examination of the cervical and vagi-

nal secretions—commonly called the Huhner test—is of inestimable value in determining the reaction of the sperm to the new environment. The presence of living spermatozoa on the cervix denotes a favorable medium for their survival. If only dead sperm are found, repeated semen studies on the male are in order and if these reveal living sperm it is evident that something in the vagino-cervical environment killed the sperm. Soda douches will frequently alter the pH of the vault to more favorable values. Similar studies of the endometrial cavity can easily be carried out, thus giving valuable information of the environment at that much higher level. In the search to date, and then to forecast the time of ovulation, the Huhner test also is useful. The mucous plug in the cervix in the proliferative phase of the cycle is thick, and tenacious, and serves quite often as an effective barrier to the passage of sperm. At the time of ovulation a change in the character of this mucous takes place in which a liquefaction occurs. This change is beneficial to the passage of sperm, and can be discovered by experience with the test.

Whenever there is doubt or a suggestion of a pelvic surgical lesion as the cause of infertility, an examination under anesthesia should be done prior to the surgery. A considerable amount of information may be gained thereby, and frequently the "cyst" or "adhesion" suspected at routine examination is found non-existent.

The further detailed study of the male marital partner is usually very simply carried out, since semen studies usually suffice. In many cases the Huhner test on the wife will give a pretty complete picture of the seminal contents. Direct sperm studies require determination of the seminal volume, viscosity, degree of autoliquefaction on standing, total sperm count, number of immature and abnormal forms, motility, and pH. Masturbated specimens and condom specimens are used occasionally but coitus interruptus specimens are considered to be more nearly physiologic by most students in this field.

In the event of azoospermia—no sperm are found at all—then a testicular biopsy is in order. If there is a history of gonorrhea, the obstruction will probably be found in the vas. If there is no such history and there are no findings of epididymitis, the azoospermia may be the result of a mumps orchitis in which case the testes will be atrophic and soft. It may be hormonal due to lack of gonadotrophic hormone of the pituitary. It may even be post-traumatic with scar formation in the urethra which causes the semen to flow into the bladder.

The treatment for the various findings uncovered by the above discussed routine may be hopeful or hopeless. In the case of the male with oligo-spermia, occasionally satisfactory results can be gotten by altering his habits of work, play, and rest, by increasing his nutritional intake, by courses of pituitary extracts. If azoospermia is due to vasal stricture with obstruction near the epididymis an anastomosis between the lower vas and the epididymis can be done, but with very equivocal results. If the testicular biopsy reveals germinal cell disintegration, then there are no substances now available which will help. The outlook for the infertile male in general is not good in the light of our present knowledge. And approximately one-third of the infertile couples therefore are faced with this relatively hopeless situation. X-radiation of the testes has not given good results, although the use of a cervical cap in the manner of an artificial insemination has occasionally ended in a happy result of pregnancy. One author reports 37 per cent favorable results in couples the male member of which had a sperm count of 60,000,000 or less. The use of the cervical cap is logical as it promotes continued motility by preventing dilution and the acid effect of the vaginal secretions.

At this point we might discuss hyaluronidase, a substance normally present in semen. It is said to be capable of dispersing the cells of the corona which may surround the newly ovulated ovum. Perhaps the future holds more hope for usefulness of hyaluronidase, but for the present most other authors' experience with it parallels this writer's lack of positive results, so much so that the substance has been withdrawn from distribution even for experimental infertility trials. Yet, in fairness to hyaluronidase, it should be noted that its property of an active dispersing effect is being utilized favorably in injectable solutions.

In women the congenital absence of vagina may be overcome by the plastic construction of a vagina, provided there is continuity of the generative tract above. The absence of tubes, though rare, can be overcome by implanting the ovary into the uterus. The absence of a uterus is insurmountable. Vaginal

septa can be removed. Cervical atresia can be treated variously by dilatations, or by posterior discission of the cervix. Endocervicitis should be cauterized lightly. Severe endocervicitis may require conization, but it then becomes imperative that future dilatations be done repeatedly lest cicatrical stenosis ensue.

One of the most common findings in infertile women is pelvic inflammatory disease, and its treatment often adds additional hazards to conception. Puerperal salpingitis affects the outside of the tubes primarily and produces pelvic adhesions, occasionally causing a hydrosalpinx by the plastic closing of the fimbria. These offer some hope for success by opening the fimbriae, although in practice this type of plastic operation seldom is effective. Tuberculous salpingitis affects both the inside and the outside of the tube and in view of the nature of the disease on the entire patient either complete rest or radical and sterilizing surgery should be done. Gonorrheal salpingitis, which is the commonest form encountered, affects primarily the inside of the tube and thus defeats any plastic procedure on the tube. Endometritis formerly was considered a cause of sterility, but with more and more conservative treatment of this entity in the younger women, it is being found that endometritis is not in itself a contraindication to pregnancy. At the present time the author has one case of endometritis which was treated conservatively and is now six months pregnant. There is no doubt but that patients with endometritis are less apt to become pregnant than normal women, but the relationship is not understood.

Simple leiomyomata may prevent gestation due to a mechanical obstruction, and their removal may be necessary. There is some evidence today that myomata in some way influence hormonal dysfunction and this too is an indication for their removal in the qualified infertility patient. Endometrial polypi interfere with pregnancy and, unless they bleed, they are frequently only found when a thorough D. & C. is done after several spontaneous abortions have occurred. Simple follical cysts of the ovaries and corpus luteum cysts rarely need treatment, but any persistent cyst that produces symptoms should be explored. Endometrial cysts frequently can be enucleated, and germinal inclusion cysts can be excised. Cystadenomata and dermoids should be removed. Occasionally, very rarely in fact, the feminizing granulosa cell tumor will be found and should be removed, as should the masculinizing tumor, the arrhenoblastoma. Struma ovarii, the thyroid tumor of the ovary, rarely comes for sterility study but rather for the primary complaint. At any rate this tumor should be removed.

In the above general survey of treatment no mention has been made of endocrine therapy. There is a widespread general tendency to over emphasize endocrine factors of sterility in the female at the expense of equally or more important etiologic factors. Inefficacious endocrine therapy in sterility is consequent to a failure to realize that sterility may be the result of other factors in both the male and the female. Endocrine therapy is most commonly used when a clinical diagnosis of hypoplasia of the uterus is made. In the majority of cases, however, that particular uterus in that particular patient is normal, just as some adults have smaller noses and hands than others. Endocrines are also widely given for menstrual abnormalities, usually without beneficial effect so far as conception is concerned. It is well known that suppressed menstruation is not conducive to fertility and that women who have habitually delayed periods are relatively infertile. Therefore, their chances for conception are poorer. The injudicious use of hormones has not achieved good results in these cases, but there is hope now that a better method of treatment is at hand. It is radiation of the ovaries. So far, no hormonal therapy has equaled the results of fractional x-ray treatment in this group of menstrual irregularity cases. Today's hormones can not and do not induce ovulation, but fractional x-ray therapy produces a change in the ovary that does bring about ovulation in subsequent cycles often. With so much interest today centered on radiation effects of one sort or another it is encouraging to report that there are now some third generation offspring of irradiated women and they do not show any deleterious effects from the grandmother's irradiation.

Artificial insemination certainly must be considered in a great many of these cases when a pregnancy does not result from intense and prolonged treatment of all the factors which an infertility study may reveal in both partners. If the husband's semen placed in direct contact with the cervix by means of a cervical cap filled with semen on repeated occasions during the optimal time for fertilization over

a period of six months fails to achieve a pregnancy, and if the couple are psychologically receptive to the idea, then artificial insemination from an unknown donor is well worth the effort. Other indications for suggesting artificial insemination are to be found in those couples in which intravaginal coitus is impossible because of mechanical factors such as vaginismus, impotence, tumors, or just plain obesity. Occasionally one encounters a couple very desirous of children and yet afraid for a pregnancy to occur lest hereditary defects—usually mental—known to exist in the husband's family might make such pregnancy ill-advised and the outcome unfortunate. In this small group an unrelated donor is absolutely necessary.

Artificial insemination is an office procedure and does not require any special equipment. The usual method is the intravaginal one, in which the specimen of semen is placed about the cervix under direct vision of the unlubricated speculum, the speculum withdrawn slowly, and the patient kept lying down for half an hour. Another quite common procedure is that of injecting semen into the first centimeter of the cervical canal in an attempt to wash away some of the endocervical mucus. Any higher injection is fraught with various dangers and should not be done.

When an unknown donor is used, there are apt to be many possible legal complications subsequently, according to theory, but in actual practice this rarely develops. The occasional exception we see serves to prove the rule. Actually, when success has come, by the time the patient reaches term the woman, the husband, and the doctor have to think twice to remember that the pregnancy is physically not the husband's for psychically it has become his. Nevertheless, one must know his patients very well indeed before artificial insemination from an unknown donor is suggested and if there is the slightest balking on the part of either the husband or the wife that is sufficient warning to the physician to drop the matter completely.

What, then, are the results of therapy instituted after a complete infertility study on both marital partners?

There is universal agreement that treatment of male infertility is rarely successful. When the cause is a deficiency of sperm, occasionally a favorable result follows repeated courses of androgens or pituitary extracts—but this is rare. When the cause is post-gonorrheal stricture of the vas, and epididymovasostomy is done, a favorable result is also quite rare. When the cause is complete azoospermia and there is no obstruction in the vas and testicular biopsy reveals no germinal generation, all treatment is hopeless.

As is more often the case than not, and the complete study fails to disclose any single cause for the infertility, the outlook is usually quite good. An investigation into the actual coital practices of the couple may reveal the habit of immediate post-coital urination or douching. When this is discontinued, pregnancy often follows. When the pH of the vault is less than 6.5, soda douching often is all that is needed. A change in the activity pattern of the couple, with emphasis on more rest and wider range of foods frequently gives the desired result. It is axiomatic that before any specific therapy is instituted any aberration from normal general health must be corrected, first, especially any of the anemias. Infertility frequently leads to psychological disturbances and the modification of these into a more acceptable frame of mind undoubtedly helps. It cannot be proven, but over-anxiety about and desire for a pregnancy seems to inhibit some couples from success. Perhaps the therapy which universally gives the best results is the use of thyroid extract in combination with vitamin E. This, the author believes, is one of the musts in the treatment of every case, and the thyroid therapy should be carried almost to the point of maximal tolerance.

Surgery in general offers only a modicum of hope for these patients unless it be the extirpation of a mechanical factor or of an hormone producing tumor. Vaginal plastic operations may be necessary for intercourse, and cervical dilating procedures may seem indicated. The results of tubal plastic procedures are quite discouraging. Plastic procedures on the fimbria notoriously are failures, but plastic repair or reimplantation of the cornual ends of the tubes is successful in about 50 per cent of the cases in which it is done. But obstructions at the cornual end with patency elsewhere are very seldom seen. The most favorable single surgical procedure is suspension of the uterus and this is generally agreed upon. Even in those cases with known retroversions from childhood, a suspension certainly shortens the period of infertility, other factors being normal.

Percentages can be given for the success of artificial insemination in apparently fertile women. Over 50 per cent of such women can conceive within the first five months if insemination is carried out several times each month during the optimal time for fertilization. Similar percentages are reported for the success of the cervical cap treatment with the husband's semen when the husband suffers from a low sperm count. Over 35 per cent of these cases respond favorably.

In conclusion, then, when a physician undertakes a sterility study he must be prepared to spend a great deal of time, and to put a great deal of "the art of medicine" into the study. He must not be dismayed by lack of success, and he must concentrate every effort upon the myriad minor variations from the normal in both marital partners.

Any couple which has tried for a pregnancy over six months without success should be offered the benefit of a sterility study. The greatest reward will come from the judicious use of thyroid and vitamin E, from the physical and especially psychological benefit of a positive tubal insufflation test, and, when indicated, by a uterine suspension. If these methods fail in the hands of the physician, then it certainly is time to seek the help of a gynecologist. There is no reward more satisfying to all concerned than the successful solution of the problem of the unwanted barren marriage.

New Blood Vessel Bank.

Doctors have established a new type of "bank" which collects and preserves human blood vessels. The first bank has been established at New York Hospital, Cornell Medical Center and Bellevue Hospital, part of the New York University-Bellevue Medical Center. Desirability of such a bank became apparent with the development of new techniques in cardiovascular surgery in which normal blood vessel grafts from deceased persons are transplanted to patients with diseased or abnormal vessels.

The blood vessel bank, its function and its contribution to cardiovascular surgery are described by a group of New York surgeons in the March 24th *Journal of the American Medical Association.* The surgeons are Drs. Edward B. C. Keefer, William DeW. Andrus, Frank Glenn, George H. Humphreys, II, Jere W. Lord, Jr., Wallace B. Murphy, and Arthur S. Touroff.

The New York bank draws its supply from all available New York hospitals.

A large number of hospitals are necessary to provide donor material in sufficient quantity for such a bank. There is nearly always difficulty in obtaining permission for autopsy and, in addition, only a small number of the autopsies actually performed provide suitable donor material. For example, from May 14, 1949, to May 14, 1950, there were only 28 autopsies from which usable donor grafts could be taken, or 6.2 per cent of all the autopsies done. It also is desirable to have a choice of different sized grafts because of the individual variations in the calibre of the vessels and, despite the shortage of material, a central storage depot makes this choice possible. A constant race against time exists in maintaining an adequate supply of donor material. A graft must be taken as soon as possible, preferably not later than six hours after death of the donor. This demands fast action by the house staff in obtaining permission for complete autopsy and clearing the permit through the hospital administration. The shortness of storage time of the grafts (from four to six weeks) also means the supply must be constantly replenished.

At the New York bank, the graft is kept in a nutrient solution under refrigeration. Another method of storage by deep freeze was also discussed in the article. Each method has certain advantages but neither has been proved sufficiently superior to be the procedure of choice. Research is being carried on to improve storage, thus lengthening its maximum time limit past the 4 to 6 weeks' mark.

SOME NEW CONCEPTS ON THE TREATMENT OF BLEEDING IN THE THIRD TRIMESTER OF PREGNANCY*

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Hemorrhage, either directly or indirectly, is the most common cause of maternal death. Preferably every pregnant woman should have her blood typed and a Rh determination done at the time she has her blood drawn for a serology test.

In the last trimester of pregnancy bleeding is most apt to be caused by placenta previa or premature separation of the normally implanted placenta. The latter is more dangerous.

If a patient is seen who states she has had bleeding in the last trimester of pregnancy she should never be examined rectally and should not be examined vaginally in the home or office. She should be typed, cross-matched and have a Rh determination if this has not already been done. Naturally she should have a history, physical examination, blood count, hemoglobin and urine examination.

X-ray examination may help diagnose placenta previa but has not been able to diagnose premature separation of the placenta. For the identification of a placenta a soft tissue technique has been most successful. If further studies are needed cystographic ones are performed. Stevenson[1] states presence or absence of placenta previa was achieved in 98.1 per cent of 474 women. The presence of more than one fetus complicates the identification of the placenta or placentae.

PREMATURE SEPARATION OF THE NORMALLY IMPLANTED PLACENTA

Incidence: 1 in 85 deliveries at the Boston Lying-In Hospital.[2]

Non-toxic: 1 in 133 non-toxic deliveries (276 cases).

Toxic: 1 in 18.3 cases showing some degree of albuminuria and/or hypertension (200 cases).

Multiparas about 80 per cent.

Treatment: Depends upon severity of symptoms, the patient's general condition, whether or not she is in labor, and, most important, the degree of cervical dilatation. The tendency to treat these cases conservatively is growing. Series with few cesarean sections have been reported in which almost all patients recovered. Therefore, in some patients at least a uterus which showed utero-placental apoplexy can be retained. Greenhill[3] states "In abruptio placentae with either external or internal profuse bleeding, as determined by rapid increase in the size of the uterus cesarean section is indicated regardless of the baby's viability. When the uterus fails to contract despite massage and drugs it has to be removed, but patience must be exercised". See idea of Boston Lying-In group below.

Conservative therapy can be carried out by rupturing the membranes with or without use of Willett forceps.

In every case of uterine bleeding regardless of the cause blood loss should be replaced by transfusion as soon as possible. It is of great importance to prevent unnecessary bleeding. In most cases of serious bleeding, not only should at least an equal amount of blood be transfused but either penicillin or one of the sulfonamides should be given.

Results: At Emory University—twenty year study—293 cases.

Only 3 cesarean sections were done and those for other causes. Membranes were ruptured. 14 mothers died—4.8 per cent (3 had eclampsia and 3 severe hypertension). There were 10 autopsies. No case of Couvelaire uteri were seen in either the oprated or autopsied group.

Fetal Mortality—33 less than 1,500 grams.

Of Premature 99 and Term 92 (191).

PREMATURE

Dead on admission	54	Whole group	60.2%
Died after admission	10	severe cases	82.8%
Born alive	35	mod. cases	55.2%
		mild cases	27.7%

MATURE

Dead on admission	40	Immature	33	127 55.1%
Died after admission	11	Dead on admission	94	
Born alive	41			
		Died after admission	21	9%

*Read before the Southwest Virginia Medical Society at Abingdon, May 4, 1950.

At Boston Lying-In Hospital[2]—476 cases.

Treatment was conservative in many of the non-toxic group, the majority of the moderately toxic and in all of the severely toxic group. None of the patients died from post-partum hemorrhage due to uterine atony. Cesarean section, according to this group, should be restricted to those patients who are not in labor, and in whom a vaginal examination reveals a cervix which is not effaced or dilated and in whom there is no evidence of fetal distress.

Mortality—Non-toxic separations: 1 per cent.
Toxic separations: 6 per cent.

Fetal mortality (including stillbirths and neonatal deaths) in non-toxic group 34 per cent.

Fetal mortality (including stillbirths and neonatal deaths) in toxic group 52 per cent.

In some patients there is an upset in the clotting mechanism of the circulating blood. If the patient arrives in shock, blood should be replaced, membranes ruptured and investigation of clotting mechanism done. Specific replacement (vitamin K, fibrinogen, etc.) should be administered. At the end of 2-4 hours if labor has not begun and the patient has recovered from shock, then abdominal hysterotomy appears to be the procedure of choice.

At Sloan Hospital, New York,[5] in a study of cesarean sections in the years, 1942-47 "Accidental hemorrhage" was 8th on the list of indications—26 in 1,000 cesareans—no deaths—small increase over 15 year period. Fetal Mortality was 42 per cent.

Placenta Previa

Definition: There is a lack of uniformity in textbooks. Greenhill and Eastman[3] have agreed on the following. Three types only will be used: Total, Partial and Low Implantation.

Total: Complete coverage of the cervix at time of examination regardless of amount of dilatation.

Partial: Partial coverage of the cervix at time of examination regardless of amount of dilatation.

Low Implantation: Refers to the ability to palpate the lower edge of the placenta through the cervix, at the internal os.

Incidence: (Mayo Clinic)[12] 1.12 per cent; 1-89 deliveries; 81 per cent in multiparas and 19 per cent in primiparas.

Mal-presentation was present in 12 per cent.

Diagnosis: X-ray visualization of the placenta has been referred to above and may be used if the patient's condition allows it. The abdominal examination may produce helpful information. Usually the presenting part does not engage satisfactorily in the superior strait of the pelvis if any appreciable degree of placenta previa is present. The high unengaged presenting part or an abnormal presentation such as transverse or oblique in the presence of ante partum bleeding is strongly suggestive of placenta previa.

If the patient is at term or has an apparently viable baby, a method of delivery may be selected as soon as the general condition of the patient permits. If the presenting part is not engaged in the pelvis, vaginal examination is apt to be particularly hazardous. It can be omitted and cesarean section done.

If the presenting part is dipping into the pelvis and delivery has been decided upon, a vaginal examination is done. The condition of the cervix is gently determined and the lower segment lateral to the cervix is palpated. When the presenting part cannot be readily felt through the tissues lateral to the cervix, it suggests the presence of placental tissue in the lower uterine segment. If the cervical canal is short and admits a finger, the region around the internal os is cautiously felt. If placental tissue is felt, then every effort is made to avoid disturbing its attachments. If the cervix is "ripe" the membranes are ruptured, but not if a total placenta previa is present.

In the event that the child seems too small to survive and if labor has not begun, an expectant attitude may be adopted. A gentle examination and inspection of the vagina and cervix may be done to eliminate the possibility of some infrequent cause of bleeding such as ruptured varices or cervical tumors but the cervical canal should not be explored. The patient should be kept in bed, in a hospital, until she delivers. Her blood must be watched and blood held ready for transfusion. When the baby is viable the bag of waters may be ruptured or cesarean section performed.

Naturally some patients will have premature spontaneous labor. Some will have recurrent hemorrhage which may influence the decision on termination, or there may be other complications needing termination. Expectant treatment can be used in 20-25 per cent of patients.

Some arguments for expectant treatment are:

1. Rarity of severe initial hemorrhage.
2. Occurrence of sharp but not severe initial

hemorrhage at 30-34 weeks without further blood loss.

3. Despite a typical history the bleeding may not be due to placenta previa.
4. In none of the women treated expectantly by Mills[6] was life endangered.
5. In a study of 50 maternal deaths from placenta previa by Gordon and Rosenthal,[7] antepartum hemorrhage caused only one death and that patient's atypical symptoms suggested an unusual degree of abruptio placenta associated with placenta previa.
6. Johnson[8] is still waiting for a report of a case of fatal hemorrhage in a patient with placenta previa who had had no cervical manipulation nor any attempt at manual removal of the remaining placental tissue during the third stage of labor.

When it has been decided that termination of pregnancy is indicated, either cesarean section or rupture of the membranes should be done. Willett or other type of forceps may be applied to the baby's head to produce traction if necessary. The use of a bag and Braxton-Hicks version has no place in the modern management of placenta previa according to Eastman.[9] Vaginal packing is of no value except to conceal hemorrhage.

The method of delivery depends almost wholly on the status of the cervix and the type of previa. For partial placenta previa with the membranes intact the simplest and best treatment is rupture of the membranes provided the cervix is "ripe".

In total placenta previa and in partial placenta previa in which extensive bleeding has already occurred cesarean section is indicated.

When a patient may be treated either by cesarean section or rupture of the membranes, an X-ray should always be taken to rule out a monstrosity. In Paalman and Hunt's[12] series the frequency of monstrosities was 5 per cent.

COMMENTS ON TRENDS AND SOME RESULTS

Fifteen years ago at Sloans Hospital for Women,[5] 20 per cent of cases of placenta previa had cesarean sections. Between 1942-1947, 69 per cent of such cases had this operation. There were 79 sections in 1,000 for this period. The only mortality in the total series was not related to the operation. Fetal mortality was 12.7 per cent. Any case in which there was active bleeding which could not be controlled by simple vaginal procedures had a section.

Mills: Maximum period of expectant treatment in 16 patients of 100 studied was 8 weeks. Average was 17 days. No mother died. Fetal loss was 16.5 per cent. Prematurity was the chief factor improved. Fetal loss was 15 per cent in cases in which this treatment was practiced and 75 per cent in those in which it was neglected.

Macafee:[10]

	Cases	*Maternal Mortality*	*Infant Mortality*
Period 1937-1944	174	0.57%	23.5%
1932-1936	76	2.6%	51.3%

Average weight in his last 47 cases was 6 lb. 12 oz. with a fetal mortality of 6 per cent.

Average weight in his first 47 cases was 5 lb. 2 oz. with a fetal mortality of 47 per cent.

Williams:[11]

105 cases. Of the 42 per cent sectioned there were no stillborn; 8 died neonatally (7 premature). Fetal mortality 18 per cent.

Maternal mortality: One case who had repeated vaginal examinations in the home and was almost exsanguinated with temperature of 101° on admission. She arrived with a cervical and vaginal pack in her. She died later of generalized infection.

41 cases were kept under observation from 2 days to 3 months in an effort to obtain a viable child.

5 babies were lost (12 per cent) in contrast to 28 per cent mortality for the whole series. One was a term baby delivered by section who died neonatally of congenital malformations; four were premature (one stillborn and 3 died neonatally). Fetal mortality for prematures (31) was 68 per cent.

SUMMARY

1. Treatment of cases of premature separation of the normally implanted placenta is not standardized. There is a tendency to treat these cases conservatively. In some patients at least, a uterus which shows uteroplacental apoplexy can be retained.

2. Whenever possible expectant treatment should be used in a case of placenta previa if the child seems too small to survive.

3. Many more cases of placenta previa are treated by cesarean section now than formerly.

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Pain-Relieving Agent in Childbirth.

Lacking a universal analgesic for childbirth, the trend in modern obstetrics is to fit a pain-killing drug to the patient rather than the patient to a drug, according to Dr. Curtis J. Lund of New Orleans. Writing in the (April 14th) *Journal of the American Medical Association,* Dr. Lund said that actually analgesia begins with the first prenatal visit of the mother.

Apprehension and tension make labor more painful, but "proper attention to the emotional factors in pregnancy and labor will materially reduce the need for analgesia." Both the mother and the baby must be evaluated before analgesics are administered.

"Complications of pregnancy, such as toxemia, heart disease, respiratory disease and prolonged labor, require individualized attention. Premature infants, infants of diabetic mothers and those with erythroblastosis [a hemorrhagic disease of children in which the Rh factor is involved] are very sensitive to analgesic drugs which should be withheld unless maternal complications demand them.

"The choice of method depends to a great degree on environment. This includes the skill and cooperation of obstetrician and anethetist, the quality of nursing care, as well as the physical facilities at hand. . . .

"The average physician needs to know only two or three soundly established methods of analgesia fitted to the environment. One of these methods will usually be applicable to the patient at hand."

Low spinal anesthesia, popularly called saddle-block, is a comparatively new procedure which has received much attention of late. Dr. Eakle W. Cartwright of Pasadena, Calif., writing in the same issue of the Journal, expressed the opinion that "in experienced hands" it is both safe and effective.

He reports that there were no maternal deaths under this type of anesthesia in 3,236 deliveries over a seven-year period. He added that there is no "maternal or infant morbidity attributable to this technic."

He found that resuscitation of the babies was rarely necessary after delivery and initial respiration occurred promptly—almost all babies crying lustily immediately after birth.

The success of spinal anesthesia, according to Dr. Cartwright, depends on "seasoned obstetric judgment" and "mastery of the technic of spinal injection."

TORSION OF THE TESTICLE

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Torsion of the testicle is in fact a torsion of the spermatic cord. It is defined as a rotation of the orchis and its appendages upon their suspending structures. Two types of torsion are recognized, the extravaginal and the intravaginal. The former is a very uncommon condition and occurs in undescended testis, or as a result of traumatic destruction or congenital absence of the tissue elements that normally bind the tunica vaginalis to the inner surface of the scrotal wall. The second, or intravaginal, is the more common type. It is characterized by rotation of the orchis, epididymis and visceral tunic on the cord.

While torsion usually occurs in the first two decades of life, cases have been reported in men over sixty years of age. It is associated with undescended testes in about one-half of the cases. Of 350 cases tabulated by Abeshouse[1] in 1936, 24 were bilateral. By 1943 only 2 additional cases had been reported.

Muschat[6], in 1932, gave an excellent description of the pathological anatomy involved in torsion of the testicle. In accord with the view of many other men, he emphasized the inability of the normally descended and attached testis to undergo rotation. In addition, he stressed the following points as essential in the production of torsion:

1. A high investment of the tunica vaginalis on the spermatic cord.
2. The complete envelopment of the testis and the epididymis by the tunica vaginalis.
3. An oblique insertion of the cremasteric fibers into the terminal segment of cord and the visceral layers of the tunica vaginalis.

These three points bear further discussion in order to gain an understanding of the mechanism of torsion. With a high investment of the tunica vaginalis there is produced an intravaginal segment of cord of variable length. The complete envelopment of the testis and epididymis by the tunica vaginalis results in a failure of the epididymis, and in turn the testis, to anchor to the posterior scrotal wall. Thus, the orchis and epididymis are contained in a serosal sac of visceral tunic that floats freely in a similar sac of parietal tunic. The oblique insertion of the cremasteric fibers into the intravaginal segment of cord and the visceral layer of tunica vaginalis allows for rotation of the visceral sac and its contents upon contraction of the cremaster.

In addition to the foregoing, a variety of anomalous conditions have been described as factors in torsion of the testicle. These include:

1. Abnormal length, laxity, or absence of the gubernaculum testis.
2. An abnormally long or absent mesorchium.
3. Failure of the descended testis to undergo inversion.
4. Development of a narrow, stalk-like common mesentery and vascular pedicle to the testicle instead of the broad, widely attached type normally found.
5. Absence of the superior and inferior ligaments connecting the testis and epididymis.
6. A very loose, roomy tunica vaginalis.
7. Elongation of the globus minor of the epididymis.
8. Failure of the testis to descend into the scrotum.

An exciting or mechanical agent is required to cause torsion in the anomalous testis. Most authoritie are agreed that sudden contraction of the cremaster muscle supplies the needed impetus for rotation. Additional exciting factors, such as muscular exertion or direct trauma, play a part. These latter are not essential, however, since many cases have developed in individuals while at rest. In some instances, the patient is awakened from a sound sleep by his initial pain.

The pathology of torsion depends directly upon the degree and duration of the condition. In partial torsion, with rapid complete untwisting, little or no tissue damage results. With prolonged torsion, there ensues vascular congestion and infarction of the testicle. This process may follow any one of four courses:

1. Untwisting and recovery, although there is usually some residual damage and fibrosis.
2. Complete atrophy and fibrosis.
3. Gangrene.
4. Suppuration, if infection is superimposed.

Depending on the stage of the process at the time of operation, the testis may be but little altered or show marked discoloration, swelling, softening, or complete destruction.

The diagnosis of torsion of the testicle depends primarily on an awareness of the condition. If one keeps in mind the possibility of torsion, it will be found to occur more frequently than generally believed. Through June, 1943, 489 cases had been reported in the literature.

In the typical case, the onset is characterized by sudden severe pain in the affected organ. This is followed by swelling and redness of the involved side of the scrotum. Early in the condition, the epididymis can frequently be palpated out of its normal post-testicular position. The onset of torsion is usually accompanied by a mild systemic reaction. There may be pallor, nausea, vomiting, and occasionally a temperature elevation of a degree or two. The white blood cell count is rarely increased. Frequently the patient gives a history of trauma or undue exertion prior to onset.

The atypical case presents a real diagnostic problem. The pain may be mild and intermittent in character. In the undescended testis the signs and symptoms may imitate those of an acute surgical abdomen.

Physical examination will reveal an empty scrotal cavity on the side of an undescended testis. In the case of torsion of the descended organ, there is usually an elevation of the affected structure, with fullness and tenderness over the lower portion of the inguinal canal on the involved side. Depending on the duration and the degree of the torsion, there will be swelling and tenderness of the scrotal contents and wall, to such a degree in most cases that palpation of contained elements is impossible. In uncomplicated torsion, the signs and symptoms begin to abate in 48 hours. Characteristically, with the onset of gangrene, pain abates more or less completely.

Torsion must be differentiated from the following:

1. Strangulated hernia—With this disaster, one sees a more marked systemic reaction with nausea and vomiting, failure to pass flatus, and other signs of intestinal obstruction. The history of preceding hernia, or palpation of a mass in the inguinal area or scrotum, with a normal testicle present on both sides of the scrotum, is of value in the differentiation.

2. Acute epididymitis—This disease has a slower onset. There are usually signs of genito-urinary tract infection, such as urethritis, prostatitis, or inguinal adenitis. According to Prehn, elevation of the testis in acute epididymitis relieves the distress, while in torsion the pain is increased. Higher temperature elevation and white cell count are found in epididymitis.

3. Orchitis of mumps—The history, accompanying parotitis, slower onset, milder symptoms, and absence of involvement of the cord are of aid.

4. Hydrocele and spermatocele—Frequently the normal testis and epididymis are palpable. The cystic mass transilluminates light. There is often a history of previous swellings and aspirations. The pain and discomfort are more gradual in onset and much less severe. Few or no systemic reactions are noted.

5. Torsion of the appendix testis—In this condition there is usually less severe distress. The testis and epididymis are palpable and normal. Not infrequently, there is a tender, pea-size mass palpable in the vicinity of the globus major. Differentiation of this condition is important, since surgery is rarely necessary.

6. Various abdominal complaints—Differentiation of these and torsion of the undescended testicle is difficult, and diagnosis is made at the time of operation.

7. Tumor of the testis, tuberculous epididymitis, syphilis of the testis, and other similar conditions—These rarely offer difficulty in differential diagnosis.

The treatment in torsion of the testicle is prompt surgical intervention. The findings at operation determine the procedure to be carried out. According to Riba and Schmidlapp[7], surgery, if undertaken within eight hours, will reveal a viable testicle. Birdsall[2] states that in the majority of cases in which the diagnosis has been made early and the testicle found to be viable and detorsion performed, the testicle has undergone atrophy. In those cases in which normal color returns after relief of torsion, the tunica vaginalis is excised, its margins are turned back and sutured, and the orchis is anchored to the posterior scrotal wall. When the viability of the organ has been lost, orchiectomy is the only recourse. The infrequent case of recurrent, incomplete torsion should be treated surgically to forestall possible destruction of the testicle. There is a wide difference of opinion as to the wisdom of tacking the opposite testis at the

time of relief of torsion. The fact that only 26 cases of bilateral torsion have occurred in 483 total cases would seem to indicate that such a routine procedure is not advisable.

The following is a report of twelve cases, nine of which are from the records of the Pennsylvania Hospital in Philadelphia:

Case 1. A fifteen-year-old colored male was admitted to the hospital with the complaint of pain in the scrotum. Five days prior to admission, following a gymnastic class at school, he developed pain in the left scrotum. The pain increased and the organ became swollen. He was seen at a local hospital and treated for epididymitis. The acute pain subsided, but the swelling persisted, and at the time of admission his pain was intermittent and much less severe. Examination showed the scrotal skin on the left to be thickened and reddened. An exquisitely tender mass filled the entire left scrotal cavity. A diagnosis of torsion of the testicle was made. At operation a complete single twist of the cord was discovered. The testis and epididymis were deep blue in color and this discoloration persisted after relief of torsion. Orchiectomy was done. The pathological report indicated hemorrhagic infarction and beginning gangrene of the orchis.

Case 2. An Army officer, thirty-six years old, while on duty in Germany three months prior to admission to the hospital, awakened at two o'clock in the morning with severe pain in the right testicle. The condition persisted and he was seen by a medical officer who gave him a narcotic for pain and made a diagnosis of acute epididymitis. In the next few days he was hospitalized and treated for acute epididymitis. The pain disappeared in about ten days, and he was evacuated to the United States. At the time of examination, there was a large, indurated, non-tender mass in the right scrotum. The epididymis could not be distinguished as such. It was felt that he had sustained torsion and infarction of the testicle, although a tumor or infection could not be disccunted. At operation, the testis was found to be deep yellow in color, very dry, and there was no bleeding on incising the tunica albuginea. The orchis and epididymis were freed, and the cord was doubly clamped and divided. It was noted that the clamp on the proximal stump could be removed with little or no bleeding. Apparently the vessels running through the segment of cord adjacent to the testicle had been obliterated. The pathological report was dry gangrene of the testicle.

Case 3. A twenty-three-year-old Army sergeant developed sudden agonizing pain in the left testicle while on bivouac. He was brought to the G.U. Clinic as an emergency patient and examination was difficult because of extreme tenderness. There was no swelling or redness of the scrotum, and the testicle and epididymis were palpable as such. During the examination it was thought possible that the patient had sustained a torsion of the testicle. Gentle taxis was attempted and the organ rotated 360° to the left with immediate and complete relief of symptoms. Two days later he was taken to the operating room and the orchis exposed. A small hydrocele sac was discovered and the testis was found to be freely movable within this sac. The hydrocele was excised and the testicle sutured securely to the scrotal wall.

Case 4. A thirty-four-year-old white chemist, whose chief complaint was pain in the right testicle of 24 hours' duration. This came on the morning following a very active day. He noticed slight discomfort at first which became progressively worse. On admission the temperature was normal and white blood count was 9,200. The physical examination was negative except for a small right varicocele and a questionable beading of the epididymis. The right testicle was rotated so that the vas entered at its superior portion. There was no swelling, but the testicle and epididymis were exquisitely tender. The diagnosis was partial torsion of the testicle. On the following day the symptoms had subsided and the testis was palpable in normal position and relationship. The patient was discharged.

Case 5. A fifty-three-year-old white salesman complained of pain and swelling in the left scrotum. On the morning of the day of admission, the patient developed pain in the left testicle. This increased during the morning and he developed chills and fever. On admission the temperature was 102.4, white blood count 15,700. Physical examination revealed tense swelling in the left scrotum the size of a grapefruit. The epididymis was exquisitely tender and posterior to the mass. There was no tenderness along the spermatic cord. The diagnosis was hydrocele and left acute epididymitis. At operation there was a partially necrotic hydrocele sac containing 1,000 c.c. of bloody fluid. There was torsion of the cord. The testis was dark purple and on incision

did not bleed. Orchiectomy was performed. The orchis was found to be gangrenous. The vas and epididymis showed acute inflammation.

Case 6. A thirteen-year-old white schoolboy complained of pain in the left testicle. Four months prior to admission the patient developed a severe pain in the left testicle. The pain was intermittent and subsided on bed rest. It recurred four times, in each instance associated with physical exertion. The last attack was seven days prior to admission and subsided gradually. Physical examination showed slight tenderness of the right testis and inguinal ring. The temperature was normal. A diagnosis was made of recurrent partial torsion of the right testicle. The symptoms completely subsided following admission and the patient was discharged.

Case 7. A thirty-two-year-old white lawyer complained of swelling of the right testicle of two weeks' duration. At the onset the swelling was associated with pain in the suprapubic area, extending upward. This lasted five to six hours and then gradually subsided. There was some nausea but no vomiting. That same day the patient noticed a lump in the right testicle. He was seen at a local hospital and told that he had acute epididymitis. The swelling increased and remained so until admission. Physical examination revealed a firm, somewhat fluctuant mass, the size of a small orange, in the right scrotum. It was slightly tender and very warm. The temperature was normal and white blood count was 10,400. At operation the cord was found to be twisted three times upon itself. The testis and epididymis were enlarged and gangrenous. Orchiectomy was performed.

Case 8. A thirty-nine-year-old colored mechanic complained of a swollen testicle. Four days prior to admission, while working under an automobile, he developed sudden severe left testicular pain, and the testicle became quite swollen and painful. He saw his local physician and was given "white tablets" and "green capsules". On the day prior to admission the scrotum became reddened and the swelling gradually increased. The physical examination revealed the left testicle to be firm, moderately tender, and swollen to three times its normal size. The scrotum was reddened and hot. The left vas was swollen to the size of the little finger and exquisitely tender. White blood count was 6,200. The diagnosis was acute epididymitis. At operation the epididymis was opened and much dark blood and several old clots were evacuated. The wound was closed. The patient improved and was discharged to the outpatient department. The final diagnosis was torsion of the testicle with spontaneous reduction.

Case 9. A white schoolboy, ten years old, complained of a swollen right testicle. Two days prior to admission he awakened with a dull aching pain in the lower pole of the right testicle. His discomfort increased on exertion and was relieved by bed rest or sitting with the right leg elevated. On the following morning he noted swelling of the testicle. His temperature was 99°. The physical examination showed the right epididymis thickened, enlarged, and acutely tender. These findings were most marked at the lower pole. The skin of the scrotum was reddened. There was questionable enlargement of the testis. The diagnosis was partial torsion of the testicle. The symptoms subsided on watchful therapy.

Case 10. A fifteen-year-old colored schoolboy complained of pain and swelling of the left scrotum. He developed sudden severe pain in the left scrotum while playing ball. He was seen in the out patient department and given a scrotal support, then sent to the G.U. Clinic. He was referred to the hospital from the Clinic. The left scrotum was swollen and tender. The left testis and epididymis were undistinguishable in an exquisitely tender mass which retracted upward. The vas was palpable and normal. A diagnosis was made of torsion of the testicle. At operation the testis was bluish black in color. Orchiectomy was performed. The pathological study showed hemorrhage and gangrene of the testicle.

Case 11. A thirteen-year-old white schoolboy complained of pain in the left groin and testicle. Two hours before admission, while swimming, he developed sudden pain, which was severe and colicky, in the lower abdomen and groin. He was seen in the Receiving Room where he vomited copiously one time. He was held for observation. The physical examination revealed excruciating pain in the left groin. There was no spasm or tenderness of the abdomen and peristalsis was hyperactive. The temperature was 98° and white blood count was 9,800. The following morning his pain had subsided. The left epididymis was found to be six times its normal size. On admission to the G.U. ward, the left testicle and epididymis were enlarged and slightly tender. The vas was felt to be normal. The white blood

count was 13,400. At operation the cord was found to be twisted 1½ times. The testis and epididymis were blue in color and orchiectomy was performed. The pathological report was hemorrhagic infarction of the testis and epididymis.

SUMMARY

Torsion of the testicle is discussed as to etiology, mechanism, diagnosis, and treatment. A summary of eleven cases is presented.

CONCLUSIONS

Some anomaly of descent, investment, or attachment of the testis and spermatic cord is prerequisite to the development of torsion.

Diagnosis of the condition is facilitated by keeping it in mind in all cases of testicular or scrotal pain or swelling.

Treatment of the condition is prompt surgery, and the earlier performed, the greater the possibility of obtaining a viable organ.

NOTE: Since this paper was prepared for publication, I have treated an additional case of torsion of the testicle. Following is a brief summary: The patient, a white male, twenty-three years of age, was admitted to St. Elizabeth's Hospital, complaining of pain in the left testicle of thirty-six hours' duration. There was no definite association with physical exertion or trauma. The physical examination was negative except for slight swelling and marked tenderness of the left scrotal contents. The patient was observed for eight hours, during which time the left testicle became progressively larger. At the time of surgery he was found to have a 90° rotation of the cord with definite vascular congestion of the testicle. Normal color; returned upon release of the torsion. The patient was also found to have patent processus vaginalis and a large hydrocele. After excision of the hydrocele and high ligation of the processus vaginalis, the testicle was tacked in place as described in preceding cases.

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Violent and Sudden Deaths.

Only 13 per cent of the people in the United States are protected by adequate investigation of violent or sudden deaths, according to Dr. Richard Ford of Boston.

In most states, Dr. Ford points out in the April 7th *Journal of the American Medical Association,* the coroner is not required by law to be a physician nor are there adequate facilities for thorough investigation of such deaths. He estimates that 300,000 (20 per cent) of all deaths annually are from violent or obscure causes. If medical examination is not a definite part of the investigation in these cases, the true cause and manner of death in many instances may never be established.

Nonrecognition of murder is common. In New York City alone the medical examiner service discloses approximately 50 deaths annually which are due to violence not noticeable externally.

Massachusetts, Maryland and Virginia were the only three states named by Dr. Ford as being served by centralized laboratories for medicolegal investigation of deaths. These together with Maine, New Hampshire, Connecticut, Rhode Island and several cities and counties of other states comprise a total of 20,000,000 citizens served by systems in which the investigator is at least a physician.

PREGNANCY IN A BICORNATE UTERUS COMPLICATED BY THE INCARCERATED NON-PREGNANT HORN—CASE REPORT*

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Congenital deformities of the uterus have been described from time to time for hundreds of years; however, a great deal of interest in this condition and its various phases of congenital maldevelopment was not aroused until the present century.

The purpose of this paper is to recall some of the factors concerning the recognization of the condition, some of the complications, and some of the ideas concerning management as expressed by men much more experienced with this type of obstetrics than this novice. Finally, I will relate our case which will demonstrate how much better hindsight is than foresight in this instance.

The actual occurrence of uterine abnormalities in pregnancy is apparently undetermined other than to say that it occurs much more frequently than is reported. Taylor[1] states that it occurs once in about 1,500 obstetrical and about once in about 2,000 gynecologic cases. Way[2] reported 10 cases in 3,894 deliveries, or one case in 389, and a second series[3] in which 15 were found in 1,200 routine cases, which would be one case in 78. He explains that they were looking more closely for those found in the second series. Eck, cited by Granberry[4], stated that duplicity of the genital tract is most frequently found in broadly built women of stable temperament. Falls[5] feels that pregnancy and labor in the arcuate type of bicornate uterus is relatively of frequent occurrence.

Ever[6] says that "most of the congenital malformations of the female genital tract are due in embryonic life to a lack of fusion, or an incomplete fusion of the lower halves of the two Müllerian ducts, or a failure, partial or complete, of resorption of their conglutinated surfaces. Thus a septum at any or all levels from the introitus on up through the vagina, cervix and uterine body may be found. This is due to failure of the resorption. Various types of duplex anomalies, such as uterus didelphys, are caused by lack of fusion. Both types can, and often do exist in the same patient; for example, the very frequent association of septate vagina with duplex anomalies of the uterus."

The simplest classification of these anomalies that I found was that given by Taylor[1], which is as follows:

1. Uterus arcuatus.
2. Double uterus with single cervix.
3. Septate uterus with a single or septate vagina.
4. Double uterus with a double cervix.
5. Uterus with a rudimentary horn or absence of one horn.

The recognization of this situation, aside from an easily demonstrable vaginal septum or a double cervix, almost demands that the condition be kept in mind.

The onset of the menses is on the average later than one would normally expect, Grandberry [4] stated 15 years, and some women were as late as 26 and in several they were absent. Dysmenorrhea and dyspareunia are suggestive. Some cases will have menstrual cycles that will add to the suspicion, especially where the patient has a double uterus that empties into a single or double cervix, and they may menstruate every two weeks. In this incidence the patient is menstruating alternately from the separate uteri. Repeated abortion, difficult labors, prematurity, post maturity, postpartum hemorrhage and retained placenti that the patient has encountered in previous deliveries may also aid in the diagnosis. In the case of a double uterus with pregnancy in one horn, there may be an establishment of menses that are apparently normal periods as soon as the effect of the newly formed corpus luteum becomes lessened. This incidence was reported by Green and Miller[6].

Upon examination, malformation of the external genitalia will lead you to suspect the possibility of further malformations. You may encounter a sep-

*Read before the South Piedmont Medical Society in Danville, Va., April 26, 1950.

tum in the vagina or a double cervix. Hysterosalpinography employed in the non-pregnant patient will usually establish the true condition of the uterus.

If confronted with the pregnant uterus of the arcuate type, Falls[5] adds that often 7/8 of the uterus will be found to the right or left of the midline. In others, both sides will hypertrophy at about the same rate but will be notched at the fundus. Then one side may grow much faster and the other grow slower and may be represented at term merely as a nodule on the surface of the uterus. This nodule may be mistaken for a fibroid. He further states that the thickness of the uterine wall and lower uterine segment is less than in normal uteri. This is especially impressive by the weak character of pains so frequently seen in these cases, and by being able to palpate the fetal parts unusually clearly through the abdominal and uterine wall. The fetal heart tones show a peculiar and curious irregularity. Falls[5] relates that they may be 120 to 130 at the beginning of auscultation and rise to 150 to 170 for a quarter of a minute or more, then, without apparent cause, slow down to 100 to 110. You are further alarmed by the fact that when labor begins this peculiar heart action may become more accentuated and the heart tones may even stop in the first stage of labor. Persistent transverse lie is also very suggestive of a malformed uterus. Incarceration of the non-pregnant horn leading to dystocia may be discovered upon doing a vaginal examination and lead you to the correct diagnosis. Taylor[1] found this condition in 4.5 per cent of 271 cases he reviewed. A patient with a double uterus emptying into a double or single cervix may deliver from below uneventfully and the condition go unnoticed until the third, fourth or fifth day when she has pains resembling after pains and passes a decidual cast from the non-pregnant horn. Schauffler[7] described this condition.

Rupture of a pregnancy contained in a rudimentary horn is a rare condition, but it has to be considered when faced with a patient that has the clinical picture of a ruptured ectopic pregnancy that has occurred later than the second month. You will be aided in the diagnosis if it is remembered that the round ligament comes on the proximal part of the mass in ectopic pregnancy while in the ruptured rudimentary horn it comes off the distal portion.

Necessity for manual removal of the placenta and the occurrence of postpartum hemorrhage is higher than that found in normal uteri. Smith[8] reported 37.8 per cent manual removals, and 20 per cent of the reports that he studied had postpartum hemorrhage.

A case of endometrosis was reported by Frosch[9], that occurred in a bicornate uterus with involvement of the ovary, omentum and pelvis. This happened in a rudimentary horn with no communication with the cervix or vaginal outlet and appeared to support Sampson's theory of endometrial propagation by retrograde menstruation and transtubal endometrial implantation.

It would be difficult and in all probability fallacious to state that cases of pregnancy in abnormal uteri should be treated by hard and fast rules, other than to say that they should be individualized. Many of these patients will deliver uneventfully. However, due to multitude of complications that can arise, it is best that these people be delivered in a hospital equipped to cope with them.

Way[3] felt that transverse lie, abortion and retained placenta were three rather frequent major complications in malformed uteri. He advised that the transverse lie will often correct itself as late as the beginning of labor. If the baby is large and cannot be moved by attempts at version, a caesarean section should be done. He further stated that you should examine the patient vaginally as soon as the membranes have ruptured and if there is no placenta previa and if the cervix is more than one-half dilated, internal version is indicated. If the cervix is not dilated that much or the cord has prolapsed, do a caesarean section. In the case of repeated abortion, radiological examination with opaque media should be done and surgery is indicated where the syndrome is definitely due to the deformity. Then he adds that this is a difficult decision, the surgery is not easy and the risk of rupture with pregnancy is to be considered due to the fact that the scar will be in the fundus. Regarding retained placenta, he advocates early manual removal in the event it does not occur spontaneously.

Figures on mortality and morbidity are not uniform and do not give a true picture. The absence of a true picture is probably due to the fact that the incidence of abnormal uteri is not known, a uniform manner in reporting cases apparently has not been established or is not being practiced, and interest in the subject is probably only aroused when a case

is stumbled on, as was our patient. As evidence for the above statement I quote Taylor[1], who cited the figures for abortion in malformed uteri of Smith, DeLee, and others, and Schauffler at 12.8 per cent, 25 per cent, and 53 per cent, respectively.

The case we report concerns a 29 year old white gravida six, para four and stillborn two. She was seen by me for the first time on the night of 21st of January, 1950, complaining of a constant desire to urinate and defecate which had occurred rather suddenly about two hours before coming to the office. At that time she was approximately thirty-two weeks pregnant, the baby was viable and in the right occiput anterior position. She was examined under sterile conditions and I was amazed at the marked relaxation of the perineum; you had the impression of examining the patient under general anesthesia. A mass about the size of a medium sized orange was found posterior to the markedly anteflexed cervix that filled the cul-se-sac. This mass had a consistency simulating a subinvoluted uterus. It was movable in almost any direction, but gentle attempts to move it out of the pelvis failed with the patient in marked Trendelenburg or in the knee-chest position. The speculum was inserted and while cleaning off the cervix which was large, soft and lacerated, bright red bleeding occurred. It was felt that this came from a cervical erosion she had; however, she was hospitalized for 24 hours and no further bleeding occurred.

I was at a loss to explain what I had found and just as puzzled as to what to do about it. An obstetrician was consulted by phone that night and it was decided to put her to bed with her hips elevated and to use the knee-chest position several times a day. She was more comfortable in bed, but position never changed the situation. She related to me how later the mass would come down so far that she could not sit down and it made walking very difficult.

On the 7th of March, 1950, I decided that the mass might be one of two things—prolapse of the arms over the head, or possible placenta previa due to the fact that the placental souffle was heard faintly, very low and just over the symphysis on the right. An x-ray revealed that the former was not true. A caesarean section was decided upon due to the placenta previa possibility and because of the dystocia that appeared to be certain if she was allowed to go into labor.

On 8th of March, 1950, a caesarean section was done by Dr. W. L. Eastlack, South Boston, Virginia, and myself. When the peritoneum was opened it was felt that the uterus was rotated or there was a congenitial absence of the left uterine ligament, tube and ovary, because it was not found in its usual location. The uterus was opened and a living normal male weighing 5 pounds 3 ounces was delivered. The placenta was situated very low and on the posterior surface of the pregnant uterus. The husband and wife had desired sterilization of the patient, so the right tube was ligated. Then a further search was made for the left adnexa and, much to our amazement, the left tube, ovary and ligament were found attached to the left cornu of the double uterus in the cul-de-sac. The size of the left uterus was that of a medium sized orange and it was attached at the base to the right uterus. Only one cervix was palpated at the operation. The abdomen was closed and her postpartum course was essentially uneventful.

In questioning the patient about 5 weeks postpartum a number of interesting facts were brought out that have been mentioned before in this paper. Her menses began at the age of 14 years. She had dysmenorrhea that was severe enough for her to go to bed on the first day. The dysmenorrhea improved after the first pregnancy and disappeared after the third pregnancy. The periods would last about 6 days. She was always irregular in that there would be 28 to 35 days between periods. After her third pregnancy she would menstruate every 2 weeks for two to four months, then would revert to the 28 to 35 day cycles for a few months. Occasionally, she would go as long as seven weeks without menstruating. From January, 1949, to 15th of June, 1949, her periods would be every two weeks or 28 to 35 days, and, therefore, she was not sure of the date she last menstruated before this pregnancy. She has never had dyspareunia. There was no bleeding or abdominal cramps after the baby began to move.

All of her previous deliveries were spontaneous, lasting from 6 to 10 hours, and the babies weighed from 7½ to 10 pounds. She says that the first pregnancy laid more to the left of the midline and all of the subsequent ones laid on the right. She cannot recall any bleeding during any of the prenatal courses, no history of postpartum hemorrhage, retained placenta or the passage of decidual casts. The

first pregnancy was a stillborn footling with the cord wrapped around the legs. The second pregnancy was a vertex presentation that lived. The third pregnancy was a breech that was stillborn. The fourth and fifth pregnancies were uneventful vertex presentations.

The last pregnancy was always situated decidedly more to the right. You could very easily palpate the fetal parts even accounting for the fact that she was a small woman and, incidently, of a stable temperament.

She had a hemoglobin of 56 per cent, which later fell to 50 per cent, despite the fact that she said she ate well and was also given a battery of hematinics. The hemoglobin never rose until she was given 1,000 cc. of whole blood while in the hospital (60 per cent on the day of the surgery following 500 cc. of whole blood). At five weeks postpartum it was 72 per cent, with the white count and differential within normal limits.

On examining her bimanually under sterile conditions five weeks postpartum only one cervix was found which was about ⅓ larger than you would expect. There was an opening in this large cervix which measured about 2.5 to 3 cm. across. A sterile probe was gently with fingertip pressure inserted about 6 to 7 cm. on the left toward the non-pregnant uterus and about 3 to 4 cm. on the right toward the formerly pregnant uterus, and I felt that there was an obstruction between the two openings. The right horn was soft and about ⅓ larger than a normal uterus, and the left horn was soft and about ⅓ smaller than a normal uterus. If these findings be true, this uterus would be of the double uterus with a single cervix type or uterus bicornis unicollis.

In conclusion, the subject of uterine anomalies has been discussed with reference to history, occurrence, embryology, classification, diagnosis, complications, management, and one case of pregnancy in a double uterus with a single cervix is reported.

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Penicillin Ointment in Eyes of Newborn.

Silver nitrate solution, the preparation now being used in the eyes of newborn babies to prevent infection, may be replaced by penicillin ointment, as the result of a recent study. (Silver nitrate is required by law in many states.)

Drs. H. H. Davidson and N. J. Eastman and Sanitarian Justina H. Hill of Baltimore, writing in the April 7th *Journal of the American Medical Association,* recommend that penicillin ointment be used in the eyes of newborn infants in preference to silver nitrate because, in their opinion, it is "the most efficacious, the safest and least irritative agent" for this purpose.

Laws requiring the use of silver nitrate are a precautionary measure to protect newborn babies from gonococcus eye infection. Such an infection—which can easily be transmitted at birth to an infant by a gonorrhea-infected mother—could result in serious eye damage or blindness. The doctors expressed the opinion that, where necessary, regulations governing the use of silver nitrate should be changed "to permit the use of penicillin ointment in hospital practice when the physician prefers it to silver nitrate." These recommendations come as a result of their study of three different methods of eye care at Johns Hopkins Hospital—penicillin ointment, penicillin intramuscular injections, and silver nitrate. Each method was used in rotation for a week at a time. During a two-year period, 4,163 infants were treated with one of the three methods. All three methods proved equally effective in preventing gonococcal infection, but the incidence of eye irritation varied greatly.

MEDICAL PSYCHOTHERAPY*

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Any medical procedure—be it diagnostic examination or the ligation of a blood vessel—produces and entails a relationship or interaction between doctor and patient. What the patient feels toward his physician is as important as the physician's feelings about the patient. *Medical psychotherapy is that part of medical treatment in which relationship between doctor and patient is the principal therapeutic agent.*

For the convenience of description, one may distinguish between brief psychotherapy, intensive psychotherapy and psychoanalysis. *Psychoanalysis,* which in terms of time and depth is the most exhaustive method, is indicated for rather severe personality disorders. Here doctor-patient relationship is purposely utilized to establish a so-called "transference neurosis". This means that the patient transfers his neurotically distorted feelings of love and hate onto the therapist, and thus can gain a mirror-like image of his behavior in reality situations, without the fear of retribution or punishment. In turn, this provides the patient with insight into his neurotic patterns in interpersonal relationships, and such recognition leads ultimately to correction and cure. Moreover, during this process, the physician—as Kubie expresses it—"loans" his ego to the patient whose ego and ego defenses are too weak to handle reality. As the recovery progresses the therapist gradually withdraws this ego support from the patient.

Psychoanalysis, ever since it became a tool of medical treatment, has been criticized for being exclusive and unwieldy due to the time it consumes, and though one remained aware of the limitations of short cuts, emphasis on the time factor led to various experiments and developments in abbreviated psychotherapy.

Intensive psychotherapy does not aim at a transference neurosis; it abandons certain details and methods of psychoanalysis—like free association technique—and deals with problems less in a longitudinal and biographical way than in the order as they present themselves. However, similar to surgery which has to be prepared to deal with any emergency that may arise during an incision into the abdominal cavity, intensive psychotherapy has to be prepared to encounter phenomena of transference and treatment of a personality disorder on analytical terms. This necessitates solid familiarity with psychiatric management and is usually beyond the limitations of time of the general practitioner or non-psychiatric specialist.

The matter is different with regard to *brief psychotherapy.* Throughout the country, medical schools attempt to integrate the teaching of psychotherapeutic management into the medical curriculum. Saslow estimates that psychotherapeutic techniques can be learned within a period of three months for practical application in any specialty. Greenhill, in the so-called "Duke experiment in methodology", tries to acquaint the medical house staff of Duke Hospital with these procedures. Here attention has been centered on interviewing techniques and the management of doctor-patient relationship. The house officers are rotated at six week intervals through the Psychosomatic Clinic Service and, after brief instruction in interviewing, they are encouraged to learn evaluation of doctor-patient relationship by practical work with patients under the supervision of the Psychosomatic Division of the Psychiatric Service. It has been observed that such involvement leads to early recognition of their own position within the medical setting and saves considerable time as compared to merely theoretical discourse about doctor-patient relationship.

During the last year's symposium, it was asked in discussion, how, for instance, the general practitioner who encounters most of these problems could deal with them in a practical way. Therefore, I would like to attempt a description of the prerequisites and techniques of brief psychotherapy. Brief psychotherapy is relationship treatment. The physician aims at a positive relationship which permits him the greatest possible influence on the patient. The primary *prerequisite* is knowledge of psychodynamics, which denotes the science of motivated human behavior or the awareness of "why people act and

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react as they do". Another essential prerequisite is a clear cut stand of the physician with regard to his own feelings about the patient's complaint or situation. The physician should avoid authoritarian, omnipotent, impatient or moralizing attitudes. Awareness of such feelings within himself will allow the physician to create an atmosphere of permissiveness in which the patient can feel free to express his emotions without the fear of condemnation or degradation. The *techniques* consist of interviewing, correlation and ventilation. Interviewing technique is measured by a scale of verbal activity. The physician controls the interview, but says little. He watches for clues of areas which are charged with emotion, in other words, for hints on subjects that have consciously or unconsciously particular meaning for the patient. Such clues may be a special emphasis on any subject, repetition of statements, association of seemingly unrelated topics, sudden blocking on any such topic or manifestations of the autonomic nervous system, like blushing, sweating, trembling, etc., during the conversation. They point to correlations between onset or exacerbation of an illness and precipitating events and situations to which the patient is highly sensitive. These clues and correlations provide information as to the areas upon which the physician should focus. Focusing on charged areas gives the patient a chance to ventilate. By ventilation, one means the verbal expression of feelings which had remained bottled up and therefore never reached the level of consciousness. In the majority of cases, such ventilation is sufficient to alter, improve or cure the symptomatology. Moreover, judicious attention to these charged areas will greatly enhance the doctor-patient relationship since the patient begins to feel that the physician understands his problems even beyond the power of his own awareness and expression.

In brief psychotherapy, insight is of secondary importance. Therefore, an interpretation like "it is your mother whose Victorian ways annoy you" will only lead to intellectual, but never emotional acceptance, while the underlying tension state of most of the psychoneurotic and psychosomatic disorders encountered is emotional and not intellectual in character. Premature interpretation also blocks production of material; the patient feels caught and soon abandons the painful topic in further conversation. Likewise, explanations about the physiology or the interrelationship between emotions and body function are often fruitless. Insight as a consequence of ventilation may be helpful, but without such ventilation it merely represents the physician's knowledge of the underlying connections and remains intellectual without bearing the stamp of emotional acceptance by the patient. Finally, the physician should know the suitability and prognosis of individual psychoneurotic and psychosomatic disorders with regard to treatment. As a general rule, the time of treatment required is proportionate to the length of the illness. A second factor is the complexity of the illness; further considerations are flexibility of the individual and adaptability of the surrounding milieu.

Summarizing, it may be stated that brief medical psychotherapy is aware of its limitations but can point to rather spectacular results in the disappearance of disabling symptomatologies. Particularly, the field of private practice seems to be suited for brief therapy. The physician-patient relationship, when firmly established, can—even if the patient sees his doctor once a year—remain the stable factor in a changing environment. The patient may return to his doctor at any time, and the doctor, by previous acquaintance and experience with the patient, can take up the slack of charged areas, allow ventilation and keep his patient on an even keel.

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THE PSYCHOLOGICAL REACTION TO THE UNAESTHETIC NOSE

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People in this advanced age know too much about the wounds of social suffering to ignore the misfortunes that follow a disfigurement of an exposed part. Coming right down to the problem of personalities, arising out of such a situation as sensitivity to the malformed nose, many recorded case histories will reveal how adversely the lives of their psychological adjustment are affected by their consciousness of such a malady.

Their feelings concerning their relationship with other people and their attitude toward various situations are all colored by the dissatisfaction with their appearance due to the disfigurement. There is a self-consciousness which manifests itself in a constant concern over what others are thinking of them.

The fluctuations in mood and behavior are often expansive and the desire for personal improvement in appearance is deeply entangled with many psychological roots. Every human being so afflicted has a real desire to have their appearance improved, and if this desire is not satisfied there are often repercussions. These repercussions may result in social rejection and rebuff and lead beyond social retreat to the abandonment of personal goals.

Because it protrudes from the center of the face, the nose is frequently the most unaesthetic feature, and when its appearance, through reconstructive surgery, is made to approach that of the normal, the other features of the face, although not of the best appearance, will share with the nose in the improvement.

With many people there is deep resentment against the nose with which they were born. Although there is little evidence of manifestation of this resentment, these individuals not infrequently become profound introverts. Well planned and well executed plastic repair of the disfigurement will often result in improvement of the entire personality of the patient.

In addition to the psychological phase of the unaesthetic nose, there are often certain physical aspects which interfere with good function and should claim attention. The effect of certain types of noses on air currents and the total functioning is well understood. However, it is not generally known that there is a distinct alteration in the direction and volume of air currents in subjects having a long and hanging tip, or those with a saddle or depressed bridge.

The nose is an air conditioner and when the task of moistening, warming and cleansing the air which is delivered to the lungs is interfered with because of a long drooping tip or a sagging bridge, something should be done to restore function. In both types respiratory improvement is greatly facilitated when plastic surgery of the tip is applied.

The bones of the nose, muscles, cartilages, nerves, arteries, veins and soft parts (skin and epithelium) constitute an intricate coming-together of anatomical structures and since this complex mechanism composes one of the principal avenues to good health we cannot overemphasize the importance of proper correction of an existing imperfection of form.

The results subsequent to correction are two fold:

1. An improvement in the appearance of the face as a whole, with, as a result of this change, an elevation of the morale of the patient.
2. Improvement in the function of the nose.

Comment

In undertaking this type of surgery adequate consideration should be given to the possibilities of improving both the function and appearance of the nose. If this is accomplished, the much needed psychological improvement will be almost certain to follow.

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CLINICOPATHOLOGICAL REPORTS

From the Case Records of the Medical College of Virginia and the University of Virginia Hospitals

HARRY WALKER, M.D., *Editor*
WILLIAM KAY, M.D., *Associate Editor*

CASE NO.: B-81679

A 15 months old white female child was admitted to the Medical College of Virginia Hospital with the following history. She had been well until approximately one month before admission when she became fretful, anorexic, more or less uninterested in her surroundings and began to vomit her feedings. These symptoms progressed gradually with the child becoming weaker and weaker, staggering when attempting to walk, falling frequently—usually to the left, and finally, shortly before admission, becoming unable to walk, stand or sit without assistance. By this time she had become very listless, saying nothing spontaneously, and never crying loudly even when disturbed. She seemed to prefer to lie on her right side and frequently rubbed her head as if in pain. It became necessary to feed the child forcibly and she continued to vomit most of her feedings. She had lost approximately 7 lbs. during her illness. During the illness the child had been constipated and the urine was scanty. The parents had not been aware of fever and there had been no chills or convulsions. The child was referred to the hospital by a physician, but it was not stated as to whether he had attended her during this illness.

The child had been a full-term baby weighing 8 lbs. and delivery had been spontaneous and uncomplicated. The diet had been adequate, including orange juice and cod liver oil. Development had been normal and the child walked at 10 months of age. She had a mild attack of measles at 5 months and had had two minor upper respiratory infections, dates unknown. She had received the first dose of DPT toxoid about 5 days before the onset of the present illness and, at about the same time, had been exposed to mumps. There was no history of severe head trauma, though the child had fallen several times from a high chair.

A 3 months old brother, a 2 year old sister, and the father and mother were living and well. There was no history of familial disease.

The family resided in the city and obtained water and milk from approved sources.

Physical examination: T. 100°F (R), R. 20, P. 120. The child was thin, listless, but irritable when disturbed. The skin was pale and dry with poor turgor. The anterior fontanelle measured 1 x 1 cm. and was slightly depressed. The pupils were normal and reacted slowly to light. The fundi were normal. The ears, nose and throat were not remarkable. There appeared to be some slight resistance to flexion of the neck and spine. The lungs were clear, the heart was normal and the abdomen was soft without tenderness or palpable masses. The tendon reflexes were hypoactive but equal. No pathological reflexes were obtained and Kernig's sign was negative. No sensory abnormalities were noted. The child moved all extremities but weakly.

Laboratory Data: Urine—straw, acid, sp. gr. QNS, albumin and acetone negative, sugar trace, microscopic negative. Hemoglobin 13.3 grams, RBC 4,400,000, WBC 13,300 polys. 72, lymphs. 21, eos. 2, monos. 5. Spinal fluid—clear, 90 cells with 64% polys., protein 100 mgm., sugar 60 mgm.%, chlorides 586 mgm.%, Wassermann negative, smear for organisms negative. Serum sodium 140 meq/L, potassium 4.0 meq/L. Fasting blood sugar 94 mgm.%. Intradernal O. T. 1:10,000 through 1:100 negative at 24, 48 and 72 hours. X-rays of the mastoids were reported as negative. X-ray of the chest was first reported as showing a suspicious density in the right apex. A repeat chest film the next day was reported as negative.

Following admission the child began to take diet and fluids fairly well and retain them. She ran a very low grade fever, the temperature varying from 98° to 100° rectally. On the 3rd hospital day she was started on penicillin, 50,000 units every 4 hours I.M., and dihydrostreptomycin, 150 mgm. every six hours I.M.

At the end of the first week in the hospital it was noted that the child had a definite left facial weakness of the central type and apparent weakness of the left arm and leg as compared to the right. However, she appeared much less lethargic, was "more successful in trying to sit and stand", and continued

to take her diet. On the 9th hospital day a neurosurgical consultant noted a "flaccid left hemiparesis" but no "evidence of increased intracranial pressure". Another consultant confirmed these findings and also noted that the child preferred to be on her right side and, when turned to the left, would immediately start turning back to the right. A repeat lumbar puncture 5 days after admission showed a similar cell count and protein in the spinal fluid with spinal fluid sugar of 73 mgm.% and chlorides 714 mgm.%.

Following the slight improvement noted initially the child began to go downhill and, by the end of the 2nd week in the hospital, began to vomit her feedings again. She became progressively more lethargic, the hemiparesis became more marked, and she began to run a little higher temperature—99.5° to 101°. Penicillin was discontinued on the 13th hospital day and streptomycin on the 15th hospital day, at which time aureomycin, 250 mgm. every 8 hours by rectum, was started. In addition the child received supplemental vitamins and, during the last 8 day, daily subcutaneous infusions of glucose in saline or half-normal Ringer's solution. The child grew progressively worse and died on the 19th hospital day.

Additional laboratory studies: Routine agglutinations negative except for Proteus X-19 which was positive 1-40 and the heterophile agglutination of 1-14. Spinal fluid cultures, both routine and acid fast, were reported as negative up through the 3rd week after admission.

Discussion by Dr. Albert M. Edmonds*.

We are presented today with a 15 months old white female child who was admitted to the hospital on the 15th day of February with a history of having been well until approximately one month previous to admission, when she became fretful and anorexic, more or less uninterested in her surroundings and began to vomit her feedings. Symptoms progressed gradually with the child becoming weaker and weaker, staggering when attempting to walk, falling frequently, usually to the left. Finally, shortly before admission she became unable to walk, stand or sit without assistance. By this time she had become very listless, saying nothing spontaneously, and never crying loudly even when stimulated. She seemed to prefer to lie on the right side and frequently rubbed her head as if in pain. It became necessary to forcibly feed the child, which again resulted in vomiting; the parents were not aware of any fever. The child had no convulsions or chills.

About five days before the onset of the present illness, the child received one injection of diphtheria-whooping cough, and tetanus toxoid; she had also been exposed to mumps at about the same time. There was no history of any severe head trauma.

Physical examination revealed a child with temperature of 100° F. The child was thin, listless and irritable when disturbed. The skin was pale with poor turgor. The anterior fontanelle was slightly depressed, as might be expected in any child who is dehydrated.

The remainder of the physical examination was not remarkable, with the exception of the fact that there was slight resistance to flexion of the neck and spine. The child moved all extremities weakly.

Laboratory data: Urinalysis revealed a trace of sugar which I think probably we can disregard. The blood count was normal with the exception of a white count of 13,300. Spinal fluid revealed 90 cells, 64% of which were polys. Protein was 100 mg.%, sugar 60 mg.%, chlorides 586 mg.%, and the smear did not reveal any organisms. The blood chemistry examinations were within a normal range. O.T., 1:10,000 through 1:1,000 were negative through one, two, and three day periods.

I am sorry I did not bring the X-rays, but it was my own neglect; I left them at the office. X-ray examination of mastoids and examination of the chest were reported as negative. On the first chest film there was one area which was a little suspicious, but on the second film taken the next day, was reported as negative.

Following admission, the child seemed to do somewhat better—she still ran a low grade temperature, varying between 98° and 100°F. The child was begun on penicillin and streptomycin after admission. At the end of a week the child had definite left facial weakness of the central type, and apparent weakness in the left arm and leg as compared to the right. However she appeared much less lethargic and was doing somewhat better. On the ninth hospital day a neurological consultant noted "a flaccid left hemiparesis", and no evidence of increased "intracranial pressure" —this was borne out by a second consultant. A repeat lumbar puncture, 5 days after admission, re-

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vealed the same findings with the exception of the fact that the sugar this time showed 73 mg.% and chlorides of 714 mg.%.

The child continued to go downhill, and by the end of the second week was vomiting again, very lethargic, the hemiparesis was more marked, and the temperature was a little bit higher. At this time the penicillin and streptomycin were discontinued, and aureomycin was tried with no effect. The child went downhill and died on the 19th hospital day.

Agglutinations examinations were all within a reasonable, normal range. The cultures, both routine and acid fast, were reported as negative through the third week after admission.

The onset and early course of this patient certainly would make one think of a neurological lesion, the exact nature of which isn't at all specific. One immediately wonders of what significance is the diphtheria-whooping cough and tetanus toxoid which was given five days before the onset. As we all know, occasionally whooping cough vaccine will result in convulsions, drowsiness and, later on, mental retardation, the onset of which is very rapid, generally within a period of minutes to possibly 12 hours after the injection has been given. No such reaction has ever been reported within a period of more than 24 hours after the original shot. So, on the basis of the fact that the onset was 5 days after the injection, I think we can disregard the toxoid given as an etiological factor.

The child was also exposed to mumps. Mumps meningitis is generally an acute illness with high fever, lethargy, severe headaches and frequently vomiting. The course is relatively short, generally lasting about 3 to 8 days. I think we can disregard mumps meningitis as a diagnosis in this case.

There is no history of head trauma, and I think we can rule out a subdural hematoma on the basis of the fact that generally the symptoms are acute, with either convulsions or vomiting as the result of the marked increase of intracranial pressure. Throughout this case report, we have repeated evidence of no increased intracranial pressure, so I think we can rule out subdural hematoma on this basis.

A purulent meningitis seems very unlikely. If a purulent meningitis had run a course of a month, certainly we would expect the child to be very acutely ill by that time, if still living, and certainly the spinal fluid would reveal the diagnosis immediately.

A brain tumor certainly is possible in this situation—the early history could well be that of a brain tumor. If it were such, the chances are that it would probably be a medulloblastoma since this is relatively common in children. Two-thirds of all brain tumors in children are sub-tentorial. If this case were a brain tumor, the chances are that it would be supra-tentorial, since the symptoms in this case suggest adhesion in this location. It isn't absolutely imperative, but certainly one would expect with a tumor that there would be some evidence of increased intracranial pressure. If not early, certainly one might see evidence of increased intracranial pressure later on before death, which we do not have any evidence of in this case. We would not expect to find red cells in the spinal fluid with a brain tumor. It is unlikely that the child would run fever with a brain tumor, as was true in this case. I do not believe the child had a brain tumor, although certainly it is not possible to completely rule it out at this time.

Brain abscess is generally preceded by a focus of infection, either by direct spread from the sinuses or ears, or possibly secondary to an infection of the lungs or throat—neither of which do we have any evidence of in this case. The course of the illness could well be that of a brain abscess. The laboratory findings also could well fit in with such a diagnosis, particularly the spinal fluid findings of a relatively small number of cells with no organisms present, either by smear or culture. One would expect again that with a brain abscess there would be a good possibility that one might have evidence of increased intracranial pressure, which we do not have here. I do not believe it is possible to completely rule out a brain abscess, but I do not think that is what the child died of.

In neurological problems in children, one has to consider the possibility of lead poisoning or lead encephalopathy. In this case we have no history of exposure, which we may or may not have. Generally speaking, the onset is rapid, with convulsions or vomiting as a result of the marked increased intracranial pressure, which one almost invariably sees with lead encephalology, due to the tremendous edema and swelling of the brain. We again do not have any evidence, according to the protocol, of increased intracranial pressure.

Frequently with lead poisoning, one can find stippling of the red cells, which we do not find present

in this case. Also, one can find the lead line in the long bones on X-ray. All we can say in this case is that there was no lead line in the upper end of the long bones on the chest plate. No X-rays of the long bones were taken. Occasionally, one can see a lead line along the gums which was not present in this case. I do not believe that the child had lead poisoning.

Encephalitis, either primary or secondary, certainly is a good possibility. By primary, I was referring to possibly St. Louis type or Equine type of encephalitis. Secondary, might be secondary to whooping cough, chicken pox, measles or possibly vaccine.

Certainly the early history in this could well fit in with a diagnosis of encephalitis. I would expect, at least later on, that the child would have developed some of the more common clinical signs and symptoms of encephalitis, such as possibly spasticity, somnolence, delirium or any one of the many different syndromes which we see with encephalitis. We have no history of any exposure to any of the previously mentioned causes for secondary encephalitis, such as whooping cough, etc., and we have no evidence of the disease, either before or after the onset of the illness. The spinal fluid findings certainly could be found in any case of encephalitis. I do not think the child died of encephalitis, although certainly it is not possible to rule it out with the findings we have in this case.

Tuberculous meningitis I believe is a good possibility in this child. The onset is generally gradual with the symptoms being rather non-specific—frequently the child is not quite up to par, may complain of headache, may vomit, and may or may not have fever in the initial onset, if so, the fever is frequently low. The examination of these children generally reveals paralysis, which may or may not be localized; frequently the paralysis is bizarre, involving various segments of the nervous system. Meningeal signs develop which was true in this case. The lumbar puncture generally reveals a small number of cells which are either polys or lymphocytes, supposedly polys early, although I don't think one can depend on that.

Generally the spinal fluid sugar and chlorides are described as low and of course the clincher in the diagnosis is the finding of acid fast organism in the smear or the finding of organisms by culture or guinea pig innoculation. Practically always, the tuberculin is positive, and in about 50% of the cases one would expect to find some other evidence of tuberculosis as, for example, a lung lesion.

As I said at the outset, the early course in this case fits in well with a diagnosis of tuberculous meningitis. The spinal fluid is consistent with this diagnosis, with the exception of the fact that the sugar, I assume, is within normal limits. I don't think one can put much faith in a spinal fluid sugar determination without a coincidental blood sugar determination. The sugar is reported as 60 mg.%. If the blood sugar reported was taken at the same time, and was 94 as reported, one could assume that it is a perfectly normal spinal fluid sugar; on the other hand, if the child had had a lot of glucose, and the blood sugar had been 150, 170 or 200, a spinal fluid sugar of 60 is certainly low. I think it would be of help to know if this sugar was taken coincidentally with the spinal fluid sugar. The chlorides are low in that it is generally considered that less than 60 is a low chloride. Again the same thing applies in that it would have been helpful to have had a coincidental blood chloride determination in interpreting this result.

The smear is negative for organisms. There are various reports in the literature in regard to the accuracy of this determination. It all depends on the diligence of the person examining the spinal fluid. Some investigators have reported an incidence as high as 80 to 90% positive with tuberculous meningitis. In many other places I think if one would check the records one will find that it would be very low, probably 10%, or possibly lower than that, depending on how much diligence is put forth in examining the spinal fluid. These men who report the high incidence of positive smears spend hours examining the spinal fluid, and certainly one would expect better results under these circumstances.

The tuberculin is negative, which certainly is a hard thing to overlook. In a very high percentage of the cases the tuberculin test is positive with tuberculous meningitis. It's possible in a late case of tuberculous meningitis to have a patient who is so knocked out that they are unable to react to the tuberculin, and that may have been the case in this situation.

The chest X-ray is negative which, as I said, we would expect in about 50% of the cases of tubercu-

lous meningitis. The later course would also fit in with the diagnosis of tuberculous meningitis. The untreated case of tuberculous meningitis generally lives between 2 to 6 weeks, and this child had a gradual downhill course, and died at approximately 6 weeks or so. The cultures were negative, which I think, probably depends on how diligently one exercises in attempting to culture the organism. A guinea pig would not have helped much in this case, because it takes 6 weeks, and the patient would have been dead anyway by the time the report was received. Possibly one of the bacteriologists might comment on this relatively new tuberculosis culture media—egg yoke I believe it is—from which one can expect a result in about a week's time.

The spinal fluid sugar and chlorides frequently are not diminished until late in the illness, frequently only a day or two before death. We don't have any information in regard to the spinal fluid sugar and chlorides just before death, and therefore we can't possibly put too much emphasis on the chloride and the sugar reports. Generally speaking, when tuberculous meningitis patients die, the temperature shoots up to a high level of 106 or 107. We do not have any statement in this case as to whether that happened or not.

I believe the patient died of tuberculous meningitis. If so, we probably will find some other miliary foci in the other organs which, as we know, may give rise to tuberculous meningitis as the result of a miliary spread. Frequently we have foci in many of the other organs, such as the liver, spleen, etc. It is hard to explain the negative tuberculin, and that is the thing that bothers me most, but I think it's possible that this child was sick enough that she was unable to react to the tuberculin at that time.

DR. KAY:

There is some additional information which was withheld from the protocol for obvious reasons, but which I would like to give now before the pathologist gives us his findings. On the day before this patient died, ventriculograms were done by the neurosurgical service with the possibility in mind of a brain abscess or tumor. There was dilation of all the ventricles with upper displacement of the dilated fourth ventricle. Following this, a suboccipital craniectomy was done, and a grayish tumor filling the fourth ventricle was found, and a biopsy was taken. Postoperatively, the patient went steadily down hill and died. Clinical Diagnosis: 1. ?Encephalitis. 2. ?Brain abscess.

Dr. Edmonds' Diagnosis: 1. Tuberculous Meningitis.

PATHOLOGICAL DISCUSSION BY DR. G. R. HENNIGAR*.

At necropsy, there was a neoplastic lesion, six and one-half centimeters in widest diameter, occupying the left cerebellar hemisphere and apparently arising from the fourth ventricle. This massive involvement of the hemisphere undoubtedly accounted for the patient's symptoms of falling to the left and the staggering gait.

Histologically, these tumors are characterized by ependymal cells surrounding blood vessels (pseudorosettes) and surrounding small clear spaces (rosettes).

The nuclei of the ependymal cells are situated at a considerable distance from the blood vessels (see fig. 1). Their fibers occupy the space between the

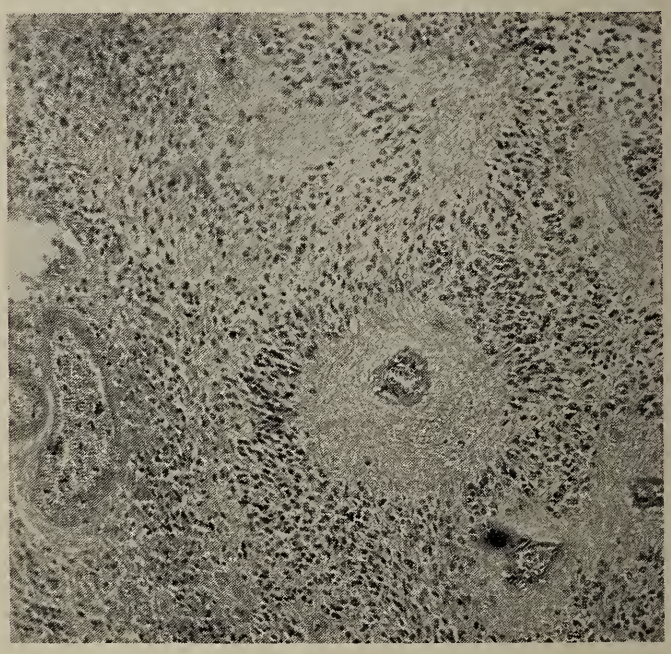

Fig. 1. The tumor cells are arranged around blood vessels and their processes run through what appears on the section to be an unstainable halo, around the vessel.

nuclei and the vessel. I have found this to be quite characteristic and although the palisading surrounding vessels in astrocytomas is common, the distance between the nuclei and vessel is not so great.

The cells are round with sparse chromatin content and are separated by glial fibers (see fig. 2). The pathognomonic feature lies in the finding of the

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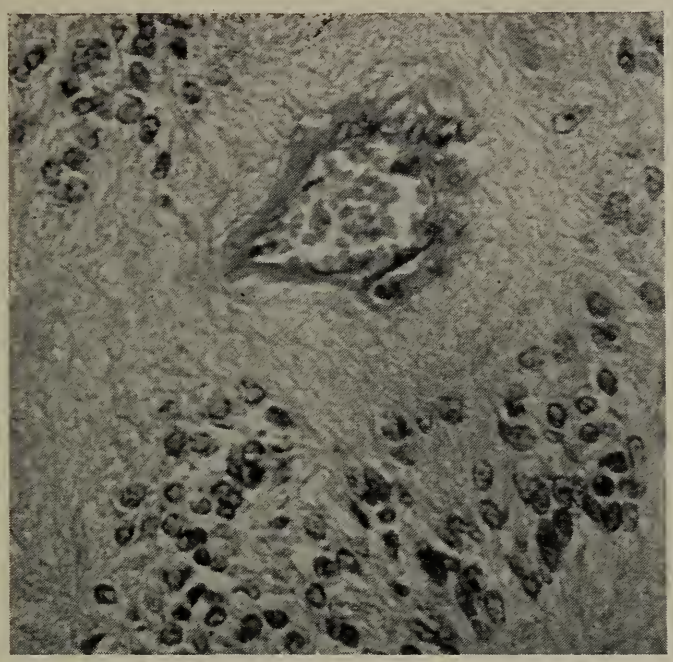

Fig. 2. The fibers in the halo can now be seen. The nuclei of the tumor cells are oval or round and separated from one another by glial fibers. Prominent nucleoli, bizarre mitotic figures and marked variation in size and staining qualities are absent.

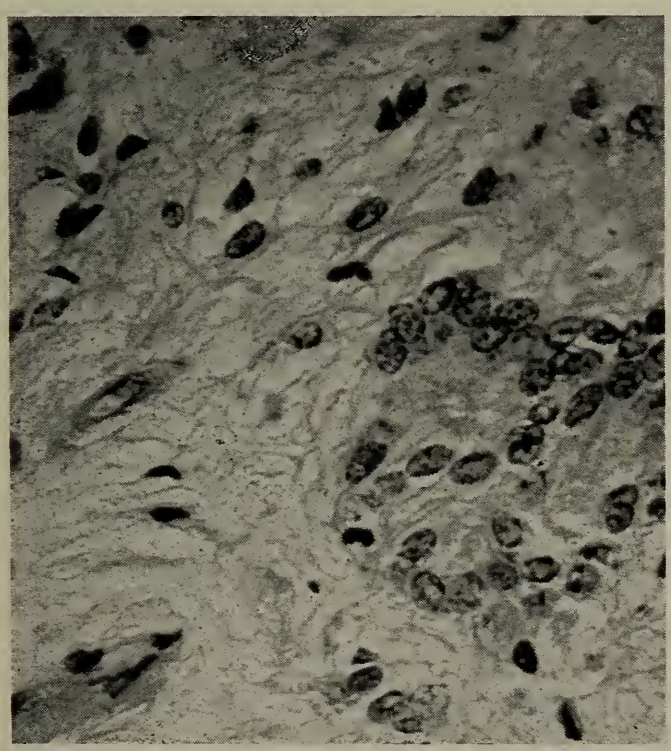

Fig. 3. Cells are arranged around a small canal, a true rosette.

true rosette (see fig. 3). Here, the cells line up around a space and the picture is reminiscent of the spinal canal. Of course, the ventricular system and spinal canal normally are lined by ependymal cells. Unfortunately, it is most difficult to find these true rosettes in the majority of ependymomas.

Lastly, one is often impressed with the frequency of occurrence of areas simulating other members of the glioma. In fact, very often there are clearly neoplasms of the brain which are both ependymoma and medulloblastoma, or ependymoma and astrocytoma.

The last lantern slide (see fig. 4) reveals streaks of calcification. Calcification is more common in

Fig. 4. In the lower part of the picture streaks of calcification are present. The stroma is abundant and the cellularity moderate.

ependymoma than is usually appreciated and may be of some help to the radiologist in the localization of the tumor, although I am sure in this case, due to size of the tumor, it was of little importance.

This case is interesting to us by virtue of the fact that it occurred in such a young child. The most common tumors in this region, that is, midline cerebellar and lateral cerebellar locations, are medulloblastoma, astrocytoma, ependymoma and hemangioma. The ependymomas, according to different writers, account for from 1 to 5% of all intracranial tumors. The clinical story is one of the effects of increased intracranial pressure, followed by symptoms and signs of cerebellar invasion.

Anatomical Diagnosis:

Ependymoma of cerebellum.

MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

Membership Roster.

By letter dated February 21, 1951, to all secretaries of local medical societies, the executive office of the Medical Society of Virginia requested a membership roster of the respective societies. While not yet complete, the response has been most gratifying. This is especially true with some of the larger components.

Comparing the local membership with the state society roster indicates which physicians have not to date become members of the state organization. In view of the fact that membership in the American Medical Association is contingent upon membership in the state society, much confusion and embarrassment can be avoided in billing A.M.A. dues if all local medical society rosters are received by the executive office. The comparison will be made and the roster returned.

Incidentally, the new address of the Medical Society of Virginia is 1105 West Franklin Street, Richmond 20.

First Seminar Held.

Much interest has been shown in the post-graduate course program as outlined by the Department of Clinical and Medical Education of the Medical Society of Virginia. The plan is to help keep Virginia's physicians abreast of medical progress without the necessity of prolonged absence from their practice.

As an immediate response to the Department's proposals, a clinical session was arranged in Tappahannock for the Mid-Tidewater and Northern Neck Medical Societies. Commencing at 2 p.m., April 11, the session would end at 9 p.m., interrupted only by the dinner hour.

Drs. H. Hudnall Ware, Jr., Edwin L. Kendig, Jr., and Thomas W. Murrell, Jr., of the Medical College of Virginia are the scheduled lecturers. "The Management of Abnormal Presentations", will initiate the program followed by "Acute Nephritis and the Nephrotic Syndrome". Rounding out the program would be "Treatment of the Commonest Skin Eruptions Seen in this Area", "The Significance of Pelvic Pain and Metrorrhagea", and "Common Respiratory Infections in Children".

Topics of such prime importance to physicians should certainly earmark the project for future success as well as demonstrate the Department's ability and willingness to go forward with well integrated "on-the-scene post-graduate seminars".

Ethics Committee Meets.

The Ethics Committee of the Medical Society of Virginia met at the State Headquarters, April 5, to consider the highly publicized subject of "kickbacks" in Virginia. Convening under the chairmanship of Dr. M. H. Harris, of West Point, the Committee discussed at length the ethical aspect of the kickback situation. Drs. H. H. Hurt and K. D. Graves, the other committee members, were in full accord with the chairman that the practice was unethical.

However such fee-splitting activity in Virginia today was unknown to the committeemen.

It is well to note that the Medical Society is attempting to discover such unethical practices and is ready to denounce and censure any participants. Equally well noted is the fact that the medical profession itself has taken action to purge its membership in an ever-prevailing effort to render top medical service in an ethically sound, professional manner.

The Committee reiterated its feeling that the profession can and will "clean its own house", to the end that legislation in this regard will be unnecessary. Dr. Harris has been instructed by the committee to inform the Governor of this attitude.

PUBLIC HEALTH

L. J. Roper, M.D.
State Health Commissioner of Virginia.

An Alert Against Smallpox

In Virginia since 1939 there have been six cases of smallpox, five in 1940 with four in one family, and one in 1944. In 1950 there were only forty-one cases of smallpox reported in the United States—a new low record. This is in marked contrast to the more than one-half million cases reported for the decade 1920-1929. The forty-one cases reported in 1950 in the United States were scattered through Central and Western States. No case was reported for any of the states on the Atlantic Coast from Maine to Florida.

It would be most unfortunate if physicians and health authorities in Virginia should assume from the above record that smallpox is no longer a threat and should neglect the protective measures of vaccination and revaccination.

Recent history of outbreaks in several American cities reveal the danger. In 1946 virulent smallpox was introduced into two Pacific Coast cities by American servicemen returning from the Far East. Sixty cases occurred in Seattle with nineteen deaths. San Francisco had fewer reported cases and no deaths. There had been no smallpox in either city since 1939.

In the *Journal of the American Medical Association* for March 31, 1951, under "Foreign Letters" there is a report of the recent outbreak of smallpox in Brighton, England, introduced by a Royal Air Force Officer who flew from Karachi by way of Malta, arriving in Brighton on November 29, 1951. He was unwell at the time of arrival but signs were not sufficient for diagnosis. In the same house in Brighton was a young woman, who following exposure was in the hospital for ten days without a diagnosis. Her father next became seriously ill and was taken to the same hospital, where on December 28 his illness was diagnosed as smallpox.

The delay in diagnosis permitted the spread of the disease through three foci:

(1) The hospital where nine nurses contracted the disease and three died. In the same hospital two domestics died; a gardener died and a baby patient came down with smallpox but recovered.

(2) The telephone exchange where one of the patients worked and who infected two other workers.

(3) A laundry—the clothes of the original patient were sent here. Six employees of the laundry contracted the disease and of these two died.

Outside of these main foci in Brighton, there were five cases with one death. In four of the five, the chain of infection was not clearly traceable, but the fifth was a contact of one of the hospital nurses who died.

Summarizing—as of February 3, 1951, two months after arrival of the original case in Brighton—there had been twenty-nine cases with ten deaths.

The vaccination status of the twenty-nine cases is of prime importance. Of the twenty-nine, eighteen had never been vaccinated; nine had been vaccinated in infancy only and two had been vaccinated once or twice following vaccination in infancy. Of the ten who died, seven were never vaccinated and three had been vaccinated in infancy only.

In these days of rapid communication persons who are exposed to smallpox in other parts of the world can easily reach Virginia during the incubation period of the disease. It is possible for such a person to arrive and mingle with our people before he becomes sick and shows any of the characteristic skin lesions.

The moral is plain. The level of immunity to smallpox must be maintained by vaccination in infancy and at intervals thereafter.

The Morbidity Report of the Bureau of Communicable Disease Control

	Mar. 1951	Mar. 1950	Jan.-Mar. 1951	Jan.-Mar. 1950
Brucellosis	5	7	16	13
Diarrhea and Dysentery	187	166	629	952
Diphtheria	12	23	44	68
Measles	2,513	233	3,995	513
Meningitis (Epidemic)	16	23	44	47
Poliomyelitis	2	1	13	10
Rocky Mountain Spotted fever	0	0	0	0
Scarlet fever	165	89	479	336
Tularemia	2	2	17	16
Typhoid and paratyphoid	3	9	16	20

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,
Commissioner, Department of Mental Hygiene and Hospitals.

Family Care for State Hospital Patients in Virginia

"Family Care" is the term applied to the placement of selected mentally ill or mentally retarded State hospital patients in homes other than their own, with the full responsibility for their continued care remaining with the State hospital.

The medical staff selects patients who are suitable for placement in a family in the community. The psychiatric social worker finds a home which will meet the needs of the patient and works closely with the physician in helping the patient and the person accepting legal responsibility, who is termed a "Sponsor", for the care of the patient in the home.

Family Care is not new. It was customary in several states to board patients in private homes before there were state hospitals. Obviously this could not be a satisfactory plan for patients who are acutely ill or in need of protection from injury to themselves or others. In many instances a patient recovers from the acute stage of his mental illness in the hospital before he is ready to return to the same environment in which he became ill. He needs to try himself out in a family and community situation before he resumes his place and responsibility in his own home.

In the case of the mentally retarded the selection of patients for Family Care is somewhat different from that of the mentally ill. In many instances it is not expected that these patients will return to community life as responsible citizens. However, we have not yet improved on family life for providing emotional warmth, so necessary to human happiness.

Legislation was enacted in Virginia in 1944 permitting home placement of mentally ill or mentally retarded patients from State hospitals under such a plan as the State Hospital Board should approve. In 1948 the Hospital Board approved a plan which is now being used as extensively as funds will permit. The 1950 General Assembly of Virginia raised the ceiling which may be paid for board from $30.00 per month to $80.00 per month, but did not appropriate funds to facilitate additional placements.

The plan approved by the State Hospital Board specifies that permission for placement must be secured in writing from the responsible relative, or guardian, of the patient. The specifications for the buildings of the home are sufficient to insure "reasonable comfort", adequate sanitary protection, and the absence of fire and health hazards. The home must be easily accessible by highway and telephone. It is taken into consideration in selection of the home that all modern conveniences are not necessarily essential for good home life.

Patients are placed in homes within a 25 or 30 mile radius of the State institution in order to facilitate supervision through the social service department and visits by hospital physicians should it become necessary. Patients are returned to the hospital for annual physical and dental examinations, for treatment of an acute illness or for any extensive medical attention. The State hospital arranges with a local physician for emergency visits for which the hospital will pay "a reasonable rate".

Not more than four patients are placed in a home at the same time. It is not often that a family can be expected to absorb as many as four patients without employing others than are already members of the household. The patient is the person to whom the State hospital is obligated and his condition governs the number to be placed in a home. Four mentally retarded patients may enjoy being together in a home. On the other hand, an emotionally disturbed patient may need to absorb all of the warmth and attention that can be given him; it would be to his detriment to have even one other patient with him.

The placement of a patient in Family Care is always a matter for serious consideration and the interests of the patient must be safe-guarded in every way. It is usually the housewife who offers her home for the purpose of Family Care for hospital patients. She must first decide whether it is practicable for her to undertake this venture. It will mean more work for her. Will this be offset by the satisfaction she will gain in helping someone to return to family and community life? After making her own decision she is going to have to present the plan to her husband and other members of the family, and to the community. It is usually in rural homes that we find facilities most suitable for these patients.

In the various states in which Family Care has been in practice for years we find that patients are well received and there is appreciation for the good work done by their sponsors. As is to be expected, after one or two families in a community take patients the number of interested families increases.

In Virginia our placements so far have been few, but we are finding exactly what has been demonstrated in other states. Each patient who has gone out into a home has gained from the experience and so has the household. As an example we may present the case of a "child" of 36. We think of her as a child because she is physically quite small as the result of a glandular dysfunction, and her mental ability is comparable to her physique. By objective standards she might be thought of as unattractive, but her emotional response compensates. She was considered suitable for placement in a home. It is a pleasure to see her sponsor's smile and her own response when it is suggested to her that she may show the social worker the new dress that has just been made for her, and the radiant expression when she is reminded of the long coveted doll she is to buy with the nickels, dimes, and quarters which have been given her by new "relatives" in the community. The sponsor does not worry when she has her "quiet spells". The psychiatric social worker has explained to her that she wants to be alone sometimes, and may become a little irritable if disturbed. She enjoys feeding the chickens and likes the dogs. When necessary she visits the hospital for dental work or a physical check-up, knowing that when she is well she will return to her "family".

Each patient that can be placed in a private home leaves a bed available for a patient in need of hospitalization.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—Mrs. C. M. McCoy, Norfolk
President-Elect—Mrs. Herman W. Farber, Petersburg
Recording Sec'y—Mrs. L. Benjamin Sheppard, Richmond
Corresponding Sec'y—Mrs. Lemuel Mayo, Portsmouth
Treasurer—Mrs. Kalford W. Howard, Portsmouth

Semi-Annual Report of Legislative Chairman.

As Chairman of Legislation, I respectfully submit the following report:

The Legislative Program sent to me by Mrs. Edgar Quayle, National Chairman of Legislation, was forwarded to the President or Legislative Chairman of each of our twelve county societies. In an accompanying letter, I urged each president or chairman to impress on their members the urgency for each one taking a more active interest in Federal government. They were also asked, in their contacts with other woman's organizations, to be prepared at any time to offer simple, logical and unprejudiced reasons why we favor supporting the free enterprise system in not only medicine but all other fields where the people can perform the respective job more cheaply and effectively than can the Federal government.

Conforming with the number one item on our State President's list of objectives, stress was laid on the importance of each member being a *Voter*. I asked that a brief time at the next auxiliary meeting be devoted to emphasize the extreme importance of each member accepting her individual responsibility in this matter and voting. Two auxiliaries have reported surveys of members registered to vote. One also had a legislative program at which a member of the House of Delegates spoke on the "Importance of Voting". One auxiliary has compiled a card file listing the outside woman's clubs and societies to which its members belong.

Names of County Presidents or Legislative Chairmen were sent to Miss Margaret Wolf, Executive Secretary of the Woman's Auxiliary to the A.M.A., to be placed on the mailing list to receive "Capitol Clinics" and "Bulletins" from the Washington office of A.M.A. This material is regularly received by your Chairman and studied.

At our President's direction, I represented the Auxiliary at the annual meeting of the Virginia Council on Health and Medical Care, January 18, 1951. Dr. William T. Sanger, President of the Medical College of Virginia, was elected new Chairman to succeed Dr. H. B. Mulholland. Senator Charles R. Fenwick of Arlington was elected first vice-chairman. It was emphasized that the national crisis makes it imperative that Virginia have a sounder and more thorough program of health education so the people may be able to protect themselves and practice good health, thus assisting to conserve the doctors' time. Mr. Henry Johnson, chairman of the doctor's survey committee and Director of Public

Relations for the Medical Society of Virginia, reported that three communities had been provided with doctors last year through the Council. It was urged that contributions to the Council be sought in view of the fact that it is a voluntary organization, dependent entirely upon its members for funds to operate.

I attended the Auxiliary Convention in Roanoke in October, 1950, and the post-convention Board meeting there. I am at present taking a Red Cross First Aid Course under the Civil Defense plan. I hold the office of Secretary for the Virginia Woman's Council of Legislative Chairmen of State Organizations, and have just recently been elected to the board of directors of the Richmond League of Women Voters.

I have enjoyed the first half of this year's work as Legislative Chairman under our new President, and look forward with interest and pleasure to the remainder of our Auxiliary year.

Respectfully submitted,
LUCIA K. EMLAW.
(MRS. MAYNARD R. EMLAW)

Doctor's Day.

I deem it an honor to be one of your Directors and regret it is impossible for me to meet with you today. Nevertheless, I would like to bring to your attention the importance of the observance of Doctor's Day in your community. This can be a good Public Relations gesture and an enjoyable affair for the doctors. Below I am giving you some suggestions for observance, but first I would like to tell you how this custom of "Doctor's Day" came about.

In 1934 the Woman's Auxiliary to the Medical Association of Georgia passed a resolution to observe March 30 each year as Doctor's Day, the object being to honor the profession, the observance demanding some act of kindness, gift or tribute. In June, 1935, at Atlantic City, the president of the Woman's Auxiliary to the Southern Medical Association, presented the plan to the National Auxiliary, where it was adopted and a recommendation made that each state select a day which would celebrate an outstanding medical achievement in their own state. The date is arbitrary, but most of the Southern States observe Doctor's Day. It has been customary in Virginia to celebrate this occasion in the spring and many of our County Auxiliaries have entered wholeheartedly into it.

The Woman's Auxiliary to the Medical Society of Virginia is very proud of our great doctors and their noble work and wish to pay a tribute to them who have given, are giving and will forever give their services to humanity in our state, in our nation and throughout the world. It is my earnest hope that *every* County Auxiliary will plan to honor the doctors in an appropriate manner this spring.

THE DOCTOR

Lord, who on earth did minister
to those who helpless lay,
Guide now the doctor who fulfills
Thy golden rule today;
Give to his eyes the power to see
The source of hidden pain,
Unto his hands the healing touch
That makes faith whole again;
Give to his voice the ring of truth
That comforts and brings cheer,
To every cry of anxious heart,
Let him be swift to hear,
From thy great store of wisdom fill
his mind and give anew
Thy strength when hours are long
and work seems more than he can do.
Lord, help him see, when tired and worn
from thankless tasks well done,
That his good fight is honored still
and bid him carry on.
He is thy instrument; he stands
for truth and good alone.
Lord, guide the doctor, for his work
is evermore Thy own.

—*Osler.*

SUGGESTIONS FOR DOCTOR'S DAY

1. Publish a tribute to our doctors in your local newspaper.
2. If broadcasting station is available have your Auxiliary sponsor a Doctor's Day program.
3. Send telegrams, letters, notes or telephone each doctor in your county best wishes.
4. Send flowers to doctor's offices, hospitals or clinics.
5. Send boutonniere to each doctor to wear as a reminder of our love, respect and appreciation of him.
6. Place flowers on graves of deceased doctors in your local cemetery.

7. Visit the sick and retired physicians, or remember them with flowers or notes.
8. Plan social functions for your medical society—barbecue, luncheon, dinner, dance or picnic.
9. Plant trees in honor of your medical society.
10. Give the observance publicity in a dignified manner, which will be a credit to the profession.

Include in your Annual Report your Doctor's Day Program. Your ideas may be valuable to other Auxiliaries.

I wish you success in all of your endeavors.

Louise J. Hamner
(Mrs. J. E. Hamner)

Public Relations.

To all Auxiliaries:

Whether you are a Democrat or a Republican, you are first of all an American citizen.

Mr. Truman wants $10 billion in new taxes. Senator Byrd declares that the budget can be reduced by $9.1 billion without impairment to our military strength. According to Senator Byrd, government expenditures for purely domestic purposes have increased 77 per cent since 1948, and some of these outlays must be cut unless we are going to spend ourselves into the kind of bankruptcy the Russians are counting on.

Senator Byrd lists 97 government bureaus and departments where a reduction of $4.9 billion can be accomplished, another $700 million by eliminating excessive use of civilian manpower, and $3.5 billion in foreign economic aid—a total of $9.1 billion, or almost equal to the $10 billion increase known as "Truman's Terrible Tax". This can be done if Congress can be persuaded to throw out the phony welfare schemes and socialistic programs, and the preparedness program will not be harmed one iota.

We proved last year what we can do when we set out to do a job as a group, so let's get to work and get our taxes reduced. Please contact all civic clubs, women's groups, PTA groups, and all community organizations possible; also your butcher, baker, neighbors, and relatives, and ask that letters be written to our Senators and Representatives urging them to support Senator Byrd's Economy Program and oppose "Truman's Terrible Tax". Before you make the appeal, familiarize yourself with the names and addresses to whom letters should be addressed and an outline of what should be written, as such questions are sure to be asked. The Senators are A. Willis Robertson and Harry F. Byrd, and, of course, the Representatives are different from each district.

Now is a good time to make this contact—everyone is still feeling the tax burden of March 15.

May the nation count on you?

Mrs. J. Rollins McGriff,
Public Relations Chairman.

BOOK ANNOUNCEMENTS

Understanding Natural Childbirth. By HERBERT THOMS, M.D., in collaboration with LAURENCE G. ROTH, M.D., with a picture story by DAVID LINTON. Cloth. $3.50. McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York 18, New York, 1950.

Thoms' patients accept pregnancy as a happy adventure. For months in advance they train for labor much like a high school athlete training for the annual track meet. When the first labor contractions occur these women greet them with enthusiasm. Early in his book Thoms is quick to blast two widely held misconceptions about what is commonly called the "Read method" (which Thoms himself prefers to call "natural childbirth".) First, the method is not "painless". It merely claims to prepare a pregnant woman emotionally and physically so that she can experience normal labor and delivery with a minimum of discomfort. Second, drugs and gas are not withheld from the woman in labor. She may have injections of demerol and inhalations of gas as desired. However, with natural childbirth it is found that the amounts given are small and in many cases the patients desire neither drugs nor gas. The essentials of the natural childbirth method are: (1) eradication of fear by making known to the patient beforehand the anatomy and physiology of pregnancy and the mechanism of labor; (2) teaching her simple techniques of muscular relaxation and breathing to be used during labor; (3) moral support by doctors and nurses during labor and delivery. The book sets all this forth in clear simple language, illustrating it with many excellent photographs. Thoms, Professor of Obstetrics at Yale Medical School, is the leading exponent of natural childbirth in this country as Read is in England. He has designed this book primarily for the layman. Therefore, it will be of great value to physicians throughout the country whose patients are asking if they may "try the Read method".

C. D. B.

EDITORIAL

John Whitridge Williams (1866-1931)

FIFTY years ago obstetrics was the Cinderella of medical sciences. As a matter of fact there was very little science in obstetrics at that time and the art was that of the midwife. When the Johns Hopkins Hospital was built, no provision whatever was made for the delivery of a woman. It was only when the medical school opened and the need was felt for a place to teach the medical students that a part of the pavilion for infectious diseases was walled off for a delivery room. Maternal mortality in the United States was a reproach. In 1933, the first year in which all the States of the Union were in the registration area, the maternal mortality was 6.2 per thousand live births. For many years the United States ranked second among the nations in high maternal mortality. In 1936, the maternal mortality rate began to improve and it has steadily declined until in 1949, it reached the astounding figure of less than one in a thousand, a rate equalled by only a few small European countries. The editor of the *Journal of the American Medical Association* (**144**:1096, 1950) listed the following causes for this achievement: (1) the increasing percentage of births in hospitals, (2) prenatal care, (3) health education, (4) availability of sulfonamides, antibiotics and blood transfusion. "But steady improvement in undergraduate and postgraduate medical training in obstetrics is the most important factor in welding together these other forces."

Whitridge Williams was a pioneer teacher in modern obstetrics and trained more future professors of obstetrics than any other person. Men like Little (McGill), Smith (Tufts), Morse and Thoms (Yale), Gamble (Albany Medical College), Goldsboro (Buffalo University), Wilson (Rochester), Sears (Syracuse), Peightal (Physicians & Surgeons), Beck (Long Island College), Bergland (Johns Hopkins University), Guttmacher (Johns Hopkins University), Douglas (Cornell), Stander (Cornell), Williams (University of Virginia), Nokes (University of Virginia), Carter (Duke), McCord (Emory), Snyder (Harvard), Douglas and Faulkner (Western Reserve), Gardner (Northwestern), Greenill (Loyola), Plass (Iowa), Dippel (Baylor), Mengert (Southwestern Medical College), Harris (Wisconsin), Ingraham (Colorado), Slemons and Lynch (California) owe their inspiration to him.

John Whitridge Williams was born in Baltimore, January 26, 1866. His father, Philip C., was a physician and a Virginian. His mother, Mary C. Whitridge, was from Rhode Island. In every generation for over 160 years there had been a doctor on one or the other side of the family. He graduated from Baltimore City College and earned his A.B. degree at Johns Hopkins. He graduated in medicine at the University of Maryland in 1888. After spending a year in pathology at Berlin and Vienna, he became voluntary assistant to Dr. Howard Kelly, who had just taken charge of obstetrics and gynecology in the Johns Hopkins Hospital. In 1893 he became associate in obstetrics. The following year he again went abroad, this time as a student in obstetrics at Leipzig, Prague and Paris. In 1896 he was elected associate professor in obstetrics in the Johns Hopkins Medical School, and in 1899, he became full professor. In 1909 he was a student in biological chemistry at the University of Heidelberg. In 1911-1923 he was dean of the Johns Hopkins Medical School. He continued as first professor of obstetrics until his death, October 21, 1931.

Dr. Williams was an outstanding teacher, and his discussion of papers before the American Gynecological Society and other meetings were models of clearness and completeness. He was one of the first to see the value of prenatal care and did much to

spread its practice throughout the country. His own researches were of great value and he stimulated many investigations by his students. He was the first to describe the funnel pelvis. His work on pelvic pathology won him membership in the American Gynecology Society at the early age of twenty-six. According to Slemons he was the youngest candidate to receive this honor. His thesis was on tuberculosis of the female generative organs. His monograph on deciduoma malignam was an outstanding work. Gigli's operation of pubiotomy is now abandoned and forgotten, but at the beginning of the Century when Cesarean section was a somewhat hazardous operation, Dr. Williams advocated it as a safe way of avoiding some Cesarean sections. He reported twenty-five successful cases in 1910. Now that the Cesarean operation has been improved, pubiotomy is no longer necessary.

Dr. Williams' interest in placentation lasted all his professional life. His last paper was on the regeneration of the placental site. It was a magnificent paper, beautifully presented. He had excellent slides of the microscopic picture of the placental site for every day of the puerperium until the endometrium had grown in from the edges and completely covered the site and displaced the bloodclot that covered the raw area at first.

Dr. Williams' worth was soon recognized, and honors, both domestic and foreign, were heaped upon him during his lifetime. In 1907 the University of Maryland awarded him an honorary Sc.D. degree. In 1911 he was made Honorary President of the Glasgow Gynecological and Obstetrical Society. He was awarded an honorary Sc.D. degree by Trinity College, Dublin, and an LL.D. degree by the University of Pittsburgh. In 1914 he was President of the American Gynecological Society and in 1916, President of the Medical Chirurgical Faculty of Maryland and also of the American Association for Study and Prevention of Infant Mortality. He was Corresponding Member of the Obstetrical Society of Munich and also of Leipzig. He was Honorary Fellow of the Obstetrical Societies of Edinburgh, Glasgow and Paris. In 1931, the year of his death, he was made an Honorary Fellow of the British College of Obstetricians and Gynecologists.

Blood Banks

BLOOD transfusion has had a long and checkered history. Those interested in this story are referred to Leo M. Zimmerman's excellent account in the Bulletin of the Society of Medical History of Chicago (1943). The technical difficulty of the operation presented almost insurmountable problems and the unknown biochemical reactions that were encountered, had to be overcome by brilliant research. Progress was therefore slow and spasmodic. It falls into three eras.

In 1656 Sir Christopher Wren, the architect, succeeded in injecting drugs into the veins of animals by means of a bladder fastened to a quill. Later, he used a convicted criminal for his experiment. In 1665, Richard Lower at Oxford succeeded with a transfusion of blood by anastamosing a dog's artery with another dog's vein. The following year in Paris, Denis was successful in a number of human cases. It was not long however before he met with a severe reaction and a fatality. He was tried before a criminal court and while he was acquitted the operation was banned. Thus ended the first era. One hundred and forty years later, James Blundell used blood transfusions in treating severe postpartum hemorrhage. He cured a number of cases which would have otherwise been fatal. Blundell used human blood and devised a three-way syringe for its administration. In the wave of enthusiasm that followed, sheep's blood was used, and the indications were extended to the "burnt, the uremic, the syphilitic and the mad."

The second era ended when physiological salt solution, which carried no risks from reaction, began to be used for the treatment of shock.

The third era began with Landsteiner's discovery of blood groups (1900). By this time aseptic surgery had become well established, and transfusions were safer on two counts (1) avoidance of blood poisoning and (2) avoidance of incompatible blood. Many of us can remember the progressive steps in the development of the modern operation: 1. Anastomosis of vessels, 2. the syringe method, and 3. indirect transfusion with citrated blood. Blood vessel anastomosis ruined the donor's artery and was open to the further objection that there was no way of measuring the amount of blood given; the syringe method which followed was complicated by troublesome clotting of blood in the syringes. Frequently it was followed by a chill and a rise of temperature, a phenomenon that was attributed to "pyogens" in the glassware or the saline solution that was used to wash out the syringes. The discovery that citrated blood could be used put the operation into the minor surgery class that the interne could do. Finding suitable blood now became the chief problem. Most hospitals met this by keeping a list of professional donors and their blood grouping, so that in an emergency usable blood could be quickly located.

In 1916 Rous and Turner discovered that blood could be preserved for a week or more. The sources for blood was now greatly extended. The Russians (1932) used cadaver blood with good results. Another source that was suggested by many workers—Ascoli and Vercesi of Italy and Goodall in Canada—was freshly placentas. As substitutes for whole blood, serum and plasma have been extensively used especially in the treatment of shock. They have the advanatge of ready availability and of not having to be cross matched. On the other hand, they may carry the virus infectious hepatitis, especially when they are made from pooled blood.

The blood bank, first established at Cook County Hospital by the late Dr. Fantus (1937), was a great step forward in making blood available to medical and surgical patients on short notice. The technic of giving blood is quite simple and the laboratory procedure of matching blood is standardized. Nevertheless, serious and even fatal transfusion reactions still occur every now and then. The whole procedure needs careful supervision. For that reason local management is essential.

The need for blood on a national and international level has changed the picture that was seemingly satisfactory. In case of a large scale disaster the American Red Cross takes over the situation; supplying doctors, nurses, food, shelter and whatever else is needed. It is natural that it be interested in blood banks.

In 1940 the Blood Transfusion Association of New York and the American Red Cross worked out .a joint program for supplying Great Britain with plasma. The project went into production in August 1940 and was stopped at the request of Great Britain January 17, 1941. In that time 5,500 liters of plasma saline solution was produced. Much was learned about the wholesale collection of blood, the care of donors, advertisement for donors, and the scientific and business technic of carrying on such a large undertaking.

The American Red Cross has continued its interest in collecting blood (we were tempted to say of bleeding the public) in peace time and in establishing blood banks. Naturally there have been conflicts with already established blood banks. It has been the policy of the Red Cross of going into a region only when they could get all the available blood, the so-called "all-or-none" policy. No satisfactory solution of this problem seems to have been reached as yet. Now that the Secretary of Defense has

designated the American National Red Cross as the military and civilian agency in blood bank matters, the subject has been brought to a head.

In July 1950 there was a meeting in Boston of the Committee on Blood and Blood Derivatives of the American National Red Cross together with its Medical Advisory Committee on the National Blood Program. There were present by invitation representatives of the American Medical Association, the American Hospital Association and the American Association of Blood Banks. It was agreed among other things that: "In the event of a disaster or a national emergency, the American National Red Cross, the American Medical Association, the American Hospital Association and the American Association of Blood Banks favor, in those communities not served by an American National Red Cross Regional Blood Center, the establishment of such a center and/or the use of existing blood bank facilities to procure the necessary amount of blood. The method to be used should be determined in a manner which meets the approval of the county medical society and the local blood banks and hospitals. Furthermore, the operation of the local blood bank facilities for civilian need should not be interfered with by the emergency program so far as consistent with government regulations existing at that time."

In Virginia at the present time, Alexandria, Lynchburg, Norfolk, Roanoke and Suffolk are served exclusively by the Red Cross. Franklin uses a private bank but the Red Cross is to get blood from the community for disaster and for the armed forces. Richmond has only private banks.

SOCIETY PROCEEDINGS

The Norfolk County Medical Society

Held its annual Spring Clinic on April 4th, with two hundred seventy-three doctors registered. Guest speakers were Dr. William Parson, University of Virginia, whose subject was Radioactive Iodine in the Treatment of Thyrotoxicosis, and Dr. Brian Blades, George Washington University Medical School, Washington, D. C., who spoke on Bronchiogenic Carcinoma of the Lung.

Local doctors participating were as follows: Dr. H. C. Meredith—The Hypersplenism Syndrome; Dr. G. F. Harrell—Diagnosis and Treatment of Foreign Bodies of the Air and Food Passages; Dr. A. J. Rawson—Lesions of the Cervix Uteri Associated with Pregnancy; Dr. John A. Cocke—Irradiation Therapy for Accessible Cancer with Particular Reference to Lesions of the Skin; Drs. Rawson and Ed Levy—Gross and Microscopic Pathology, Clinical Laboratory Procedures; Dr. W. B. Hoover—Congenital Anomalies of the Gastro-Intestinal Tract in Infants; Dr. Meyer Krischer—The Problem of Burns Resulting from Atomic Bomb Explosions; Dr. Kirwan King—The Long-Time Results of Subtotal Gastrectomy; Dr. John Franklin—The Problem of Potassium Deficiency; Dr. Arnold Strauss—Demonstrations of Gross and Microscopic Pathology; Captain Paul E. Spangler, U.S.N.—Use of ACTH in Treatment of Burns; Dr. Brock Jones—Post-Menopausal Bleeding; and Dr. William E. Byrd—Management of Obstetrical Emergencies.

Dr. George Schenck is president of the Society, and Dr. Eugene Lowenberg was chairman of the Spring Clinic.

The Rockingham County Medical Society

Met at the Rockingham Memorial Hospital in Harrisonburg on March 20th. Following dinner, a very interesting talk was given by Dr. Porter P. Vinson, Richmond, on the "Diagnosis and Treatment of Hiatal Esophageal Hernia."

Officers elected for 1951 are: President, Dr. Noland M. Canter, vice-president, Dr. J. F. Wine, and secretary-treasurer, Dr. Cyril I. Sease, Jr.

The Tazewell County Medical Society

Had a dinner meeting on February 21 at the River Jack Restaurant, North Tazewell, under the presidency of Dr. L. L. Thompson of Richlands.

The program was presented by Drs. Thompson and R. Brittain, who reported on the recent ACTH and Cortizone Conference held at the University of Virginia in January. Two doctors, Dr. C. W. Docter of Amonate and Dr. W. A. Shaffer of Bluefield, West Virginia, were elected to membership.

NEWS

Summer Speech Improvement Camp.

Camp Woodrow Wilson, the summer speech improvement camp, will be open from June 24th to August 18th at the Woodrow Wilson Education Center, Fishersville. This is a project of the University of Virginia Speech and Hearing Center in cooperation with the Virginia Society for Crippled Children and Adults. Applications will be considered for boys from 7 through 20 and for girls 8 through 12.

Full information may be obtained from James M. Mullendore, Ph.D., Speech and Hearing Center, 58 E. Range, University of Virginia, Charlottesville, Virginia, or Benjamin S. Andrews, Box 161, Medical College of Virginia, Richmond, Virginia.

Lynchburg Doctors Honored.

At the March meeting of the Lynchburg Academy of Medicine, the following doctors were elected to Honorary Membership: Dr. E. Barksdale, Dr. W. S. Ferguson, Dr. R. M. Taliaferro, and Dr. J. W. Walters.

Dr. William Grossman

Has been elected president of the Petersburg Rotary Club for 1951-2.

Dr. Isa Costen Grant

Has been named chief of the Division of Maternal and Child Health in the Richmond City Health Department. She is a graduate of the Medical College of Virginia, class of '41, and has recently been employed by Catawba Sanatorium.

News From Department of Medicine, University of Virginia.

Dr. E. D. Vere Nicoll, Chief Assistant to the Orthopedic and Fracture Departments, St. Bartholomew's Hospital, University of London, has been appointed Instructor in Orthopedics at the University of Virginia, effective March 1.

Dr. Nicoll attended the medical course at St. Bartholomew's, where he was graduated in 1940. He served as medical officer in the Middle East and Italian campaigns and as commander of the 151st Military Hospital, R.A.M.C. During the past four years Dr. Nicoll has been associated with St. Bartholomew's Hospital.

Dr. Desmond R. H. Gourley has been appointed Assistant Professor of Pharmacology at the University of Virginia, effective September 1. During the past two years he has been associated with the Pharmacology Department in research on the phosphate metabolism of red blood cells, using radioactive phosphorus. Dr. Gourley received his Ph.D. in 1949 from the University of Toronto, where he served as a demonstrator in cellular physiology.

Dr. Henry B. Mulholland, Professor of Internal Medicine, University of Virginia, will attend the annual meeting of the World Health Organization, Geneva, Switzerland, May 7-25.

Dr. Robert D. Wright, Professor of Social and Environmental Medicine at the University of Virginia, has been awarded a fellowship by the World Health Organization to study Social Medicine and Human Ecology in Europe. The three-month study period began April 9, when Dr. Wright sailed for Stockholm, Sweden, to observe the medical care program. From Sweden Dr. Wright will go to Geneva, Switzerland, for conferences with World Health Organization officials and to Paris, where he will represent the United States at the annual meeting of the International Union Against Venereal Disease. In England Dr. Wright will study with Dr. Leslie Banks, Professor of Human Ecology, Cambridge University, and Dr. F. H. E. Crewe, Professor of Social Medicine, University of Edinburgh.

The University of Virginia has assigned dormitories accommodating 120 students to the Department of Medicine. The dormitories are located on the East Range, immediately adjacent to the Medical School and University Hospital. Most of the rooms are in buildings erected under the supervision of Mr. Thomas Jefferson and are equipped with fire-

places. A lounge has been provided for recreation and meetings of student societies.

Alumni speakers at the annual meeting of the University of Virginia Medical Alumni Association, Charlottesville, June 8, will be Dr. John S. Lawrence, Professor of Internal Medicine, University of California at Los Angeles, and Rear Admiral H. Lamount Pugh, Surgeon General of the United States Navy. Dr. Lawrence will address the meeting's morning session on "Physiology of White Blood Cells," and Admiral Pugh will speak at the Annual Medical Alumni Dinner.

Dr. Austin I. Dodson,

Richmond, was guest lecturer at the 14th annual meeting of the New Orleans Graduate Medical Assembly held March 5-8.

Virginia Pediatric Society.

At the Spring meeting of the Virginia Pediatric Society, held in Roanoke on April 7th, Dr. E. L. Kendig, Jr., Richmond, was elected president, Dr. Paul Hogg, Newport News, vice-president, and Dr. T. J. Humphries, Roanoke, secretary-treasurer (re-elected).

A new technique of feeding premature infants, which involves the use of plastic tubing, was described by the guest speaker, Dr. Richard Day of the College of Physicians and Surgeons, New York.

Dr. Frederick H. Yorkoff,

Recently of Clintwood, has been appointed assistant chief of professional services at the Fort Myer Army Dispensary in Arlington. He is making his home in Washington, D. C.

Dr. Charles A. Young,

Roanoke, spoke at the "Silver Jubilee" annual meeting and dinner of the Wills Hospital Society in Philadelphia on March 17. His subject was " 'Wills' As I Knew It Thirty Years Ago." Dr. Young was also elected President of the Wills Hospital Society.

The Neuropsychiatric Society of Virginia

Will hold its spring meeting at the University of Virginia, Charlottesville, on May 2nd. The guest speaker will be a nationally prominent psychiatrist, Dr. Franklin G. Ebaugh, Denver, Colorado, who will speak on the subject of "Group Psychotherapy". There will be a paper by Dr. Wendel J. Pile of Eastern State Hospital on "The Effect of Glutamic Acid on a Group of Chronic Psychotic Patients." It is planned that a film entitled "Psyche" will be shown and discussed by Dr. David C. Wilson, Professor of Psychiatry, University of Virginia, and Dr. Benedict Nagler, Chief, Neuropsychiatric Service, Veterans Administration Hospital, Richmond.

J. B. Funkhouser, *Secretary.*

Dr. Herman A. Meyersburg,

Recently of Norfolk, has taken a position with the Mental Hygiene Clinic of the Veterans Administration Regional office in Washington, D. C. He is also taking further training with the Washington Psychoanalytic Institute and expects to be in Washington about three years.

Physicians' Art Show.

The American Physicians Art Association will have an art exhibit, as usual, during the A.M.A. convention at Atlantic City, N. J., June 11 to 15, 1951, inclusive. Any physician in the United States, Canada and Hawaii desiring to participate in this show should communicate with the secretary for particulars.

J. Henry Helser & Co., Inc., Investment Managers with offices on the Pacific Coast, are the new sponsors of the American Physicians Art Association and will award 200 trophies besides a special Helser Trophy —a large decorative cup depicting Yankee Ingenuity. This cup is to be awarded for art work done in any medium. Also the large Popularity Trophy will be awarded to the owner of the art piece receiving the most popular votes during the A.M.A. convention. Over 4,000 members of the American Physicians Art Association will receive shortly, entry blanks, shipping labels and rules about this fourteenth art exhibition.

The Annual Art Banquet will be held Tuesday evening, June 12, at the Marlborough-Blenheim Hotel, Atlantic City, N. J.

F. H. Redewill, M.D., is secretary of the Association, and his address is 760 Market Street, San Francisco 2, California.

The American Congress of Physical Medicine

Will hold its twenty-ninth annual scientific and clinical session September 4-8, 1951 at the Shirley-Savoy Hotel, Denver, Colorado. All sessions will be open to physicians and other professional personnel. In addition to the scientific sessions, the annual instruction seminars will be held from the

4th to the 7th. Full information may be obtained from the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

Office Space for Rent.

Doctor's or Dentist's office available immediately, corner of Harrison and Franklin Streets, Richmond. Call 5-4387. (*Adv.*)

Wanted.

Association or preceptorship with busy general surgeon. Willing to do industrial practice or part-time general practice. Write "Associate", care the VIRGINIA MEDICAL MONTHLY, 1105 W. Franklin St., Richmond 20, Va. (*Adv.*)

For Sale.

Ideal location for physician desiring light practice, at Ceres, Bland County, Virginia. A new seven-room office-apartment, one floor, well constructed, all modern conveniences. One physician in county at present. Located in beautiful farming valley, with excellent hunting and fishing. Sacrifice price for quick sale. Write P. O. Box 17, Spotsylvania, Virginia. (*Adv.*)

OBITUARIES

Dr. William Russell Jones,

Widely known physician of Richmond, died March 20th, after a brief illness. He was eighty-one years of age and a graduate of the Department of Medicine, University of Virginia, in 1892. Later he attended the former University College of Medicine in Richmond where he was graduated in pharmacy in 1894. Dr. Jones then taught chemistry, toxicology and medical jurisprudence at the College from 1897 to 1906, and was later lecturer in clinical medicine and associate professor of the practice of medicine. He was the author of several textbooks. At the time of his death, Dr. Jones was medical advisor and chief surgeon of the Richmond, Fredericksburg and Potomac Railroad. He held the rank of major in the medical corps of the Virginia National Guards. He had been a member of the Medical Society of Virginia since 1894 and was a Life Member. Two daughters and two sons, one of them Dr. William R. Jones, Jr., of Richmond, survive him.

Dr. Henry Owen Easley,

Prominent physician of Alleghany County, died at his home at Iron Gate on March 25th. He was seventy-five years of age and a graduate in medicine from the University of Virginia in 1904. At the time of his death, Dr. Easley was president of the Alleghany-Bath County Medical Society. He had been a member of the Medical Society of Virginia for forty-two years.

Dr. Louis Xavier Kolipinski,

Richmond, died March 31st of a heart attack while driving his automobile. He was a native of Washington, D. C., and forty-four years of age. Dr. Kolipinski graduated from the Medical College of Virginia in 1936 and practiced at the Central State Hospital in Petersburg until 1941. He served as captain in the Medical Corps during World War II, following which he located in Richmond. He was a member of the American Psychiatric Society and had been a member of the Medical Society of Virginia since 1938. His wife and two daughters survive him.

Dr. Gustave Beauregard Dudley,

Martinsville, died April 7th. He was fifty-eight years of age and graduated from the Medical College of Virginia in 1918. Dr. Dudley had been a member of the Medical Society of Virginia since 1923. His wife and two sons survive him.

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GUEST EDITORIAL

Advances in Heart Disease in This Half Century

MANY of the laity believe that physicians talk much about heart disease but do little to cure it. A brief review of the advances made in this half century, both in the diagnosis and treatment of heart disease, may serve in part to answer this criticism.

In 1902 Sir James Mackenzie made notable progress in the explanation of cardiac irregularities with simultaneous recording of the jugular, venous, and radial arterial pulses with the polygraph. In 1903 Einthoven of Holland introduced the string galvanometer for electrocardiography which has proved of outstanding value in the diagnosis of myocardial infarction as well as in the clarification of the precise nature of arrhythmias. In 1908 Maude Abbott of Canada published a monumental clinical and pathological study concerning congenital heart disease which laid the ground work for successful treatment of certain forms of this disorder. J. B. Herrick of Chicago published his famous paper, "Clinical Features of Sudden Obstruction of the Coronary Arteries," in 1912, and made possible the modern treatment of myocardial infarction. In 1918 Frey of Germany introduced quinidine as a treatment of auricular fibrillation. In 1920 Pardee of New York City pointed out the correlation of "Coronary" T waves of the electrocardiogram with myocardial infarction. Saxl of Austria in 1920 introduced mercurial diuretics which have proven of tremendous value in the treatment of congestive heart failure. In 1927 Hering of Germany pointed out the significance of the carotid sinus reflexes which has made possible the relatively successful prevention of syncope due to this cause. In 1929 Churchill of Boston successfully performed pericardial resection for chronic constrictive pericarditis. Wilson of Ann Arbor in 1930 introduced chest leads in electrocardiography and clarified the significance of bundle branch block. In 1934 Goldblatt, then in Cleveland, demonstrated the production of hypertension by induced renal ischemia in dogs. In 1934 Beck of Cleveland devised an operation to bring new blood vessels to the heart diseased by coronary arteriosclerosis through pericardial implants of pectoral muscle. In 1935 Smithwick of Boston modified Peet's operation of splanchnic resection for hypertension, a procedure which in carefully selected patients has proved helpful. In 1939 Gross of Boston did the first successful ligation for patent ductus arteriosus. This operation has already saved the lives of hundreds of children. Improvement in the surgical technique for the treatment of mitral stenosis, suggested first by Cutler in 1924, now yields promise for the relief of mitral and aortic stenosis by direct operative treatment of the affected valves. Angiocardiography has been one of the most valuable techniques in the diagnosis of congenital heart disease and vascular disease. The technique first described by Robb and Steinberg in 1940 has been of particular value in the exact diagnosis of congenital heart abnormalities. The anticoagulants, heparin and dicumarol, introduced in 1941 for the treatment of myocardial infarction and pulmonary embolism, have proven of great value in preventing extension of thrombosis and of thromboembolic complications. Subacute bacterial endocarditis, formerly 99% fatal, can now be successfully treated

in a large proportion of cases by proper chemotherapy. The ballistocardiograph, an instrument which registers graphically the recoil of the heart and the body and the impacts of the ejected blood, was shown by Starr in 1942 to be of value not only in measuring the output of the heart but also in correlating abnormal patterns with heart disease which promises to give important information not obtained by any other form of cardiac examination.

Cardiac catheterization may be accomplished by the introduction of a flexible radiopaque catheter through a peripheral vein into the right auricle, right ventricle, and pulmonary artery. The pressures in these chambers may be measured and samples of blood obtained which are studied for the oxygen content. This procedure, performed by Forssman of Germany upon himself in 1929 and perfected by Cournand of New York, has greatly facilitated the accurate diagnosis of complicated congenital disorders. The brilliant operative treatment of the blue baby with the tetralogy of Fallot was first performed in 1945 by Blalock of Baltimore upon the theoretical recommendation of Taussig, also of Johns Hopkins. In this procedure, anastomosis of a subclavian or innominate artery is made to the right or left pulmonary artery, which enables a large proportion of the blood to be oxygenated by the lungs. At present, the following congenital cardiac lesions are amenable to surgical treatment: (1) coarctation of the aorta, (2) patent ductus arteriosus, (3) tetralogy of Fallot, (4) anomalies of the great vessels producing dysphagia lusoria such as double aortic arch, (5) pulmonic stenosis or tricuspid atresia with patent foramen ovale, (6) pulmonary or systemic arteriovenous aneurysms.

Stead of Duke University has advanced a new theory concerning the fundamental mechanism of congestive heart failure with emphasis on reduction in cardiac output causing reduction in renal blood flow, which in turn causes retention of sodium and increased blood volume, which in turn raises venous pressure. Low sodium diets in congestive heart failure thus have a rational basis. The so-called high output types of heart failure encountered in thyrotoxicosis, anemia, heart failure due to arteriovenous aneurysms, patent ductus arteriosus, and beri beri heart disease can all now be cured by appropriate treatment. Radioactive iodine seems promising in the treatment of certain patients with intractable angina pectoris as suggested by Blumgart of Boston in 1949. In 1950 Pronestyl, a procaine derivative, has been successfully used in the treatment of ventricular tachycardia. In 1950, by the injection of radiopaque dye through a catheter in the aorta, interesting studies concerning the coronary artery circulation have been made.

In the future of cardiology are many unsolved problems, the most pressing of which is the prevention of successful treatment of arteriosclerosis since this disease is the predominant cause of coronary artery disease in middle or later life. Also lacking is precise knowledge regarding the causation and treatment of hypertension. Finally, there is the urgent need for additional information concerning the etiology and treatment of acute rheumatic fever. The temporary control of the rheumatic state with ACTH and Cortisone is a hopeful indication for future progress in the treatment of this disease.

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TOXIC REACTIONS OCCURRING WITH ACTH AND CORTISONE THERAPY

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The preparations ACTH and Cortisone are relatively new, yet they have been used for a large number of conditions and have received considerable publicity in the daily press.

Until recently these preparations have not been available for general use, but in the past few weeks, they have been released and may be obtained on prescription. In view of this, it is important that physicians become fully aware of the severe reactions which may occur during the administration of these drugs.

The pituitary adrenal corticotrophic hormone, ACTH, is prepared from hog pituitary, the concentration of sheep and beef pituitary being very low. The yield, even from hog pituitary, is so small that each patient requires the daily administration of the amount obtained from 100 glands. Cortisone is a physiologically active adrenal cortical steroid originally named "Compound E." It is the principal member of the 11-oxisteroid 17-ketosteroid group. As is not uncommon when powerful new preparations are discovered, the value of these substances is soon over-emphasized in the popular press and in professional literature as well. On the other hand, the toxic effects do not receive attention until much later. During the past year, however, various articles have appeared in the literature describing toxic effects of these two preparations. It is our purpose to call attention to some of these effects with special emphasis on the psychiatric conditions which may develop. But, first, let us discuss briefly the history of these preparations.

In the Fall of 1946 the Armour Laboratories made available a preparation of ACTH (adrenocorticotrophin) to ascertain the properties of this hormone in the human being.

During the succeeding two years, the effect of stimulating the adrenal cortex with ACTH (Armour) was studied in normal human beings and individuals with obvious endocrine defects by a number of investigators.

Practically all of these studies were metabolic balance studies designed to obtain a maximum amount of information concerning adrenal cortical function from the very limited supply of ACTH which was available. As a consequence, a substantial body of information has been accumulated concerning the physiologic and metabolic effect of stimulating adrenal glands in normal human beings and individuals with obvious endocrine defects.

During this first two year period, two disease syndromes in which there may be a metabolic defect were studied, namely, myasthenia gravis and gout, the first by Soffer[1], and the second by Cohn and Wolfson[2]. These investigators found that the clinical status of the patient was materially altered as a result of adrenal cortical stimulation by ACTH (Armour).

During the latter portion of this first two year period a number of groups were exploring the metabolic function of the adrenal cortex in, what were called at the time, "miscellaneous diseases," but there was no thought at the time that stimulation of the adrenal cortex by ACTH (Armour) would alter the clinical course of any of the syndromes under investigation. However, definite improvement was observed by several investigators in diseases under the conditions experiments were being done.

In December, 1948, Dr. Edith B. Farnsworth[3] requested ACTH to study the effect of adrenal cortical stimulation in nephrosis, in which she hypothesized a metabolic defect in adrenal cortical function, and found, in fact, that the clinical status of the nephrotic patient was substantially altered as a result of the hormone administration.

In the latter part of January, 1949, Dr. Philip Hench requested ACTH to study adrenal cortical function in rheumatoid arthritis in line with his

hypothesis that there may be an adrenal cortical defect underlying this disease. The results observed are, of course, now widely known.

The work of Hench, Kendall, Slocomb and Polley[4], showing that both Compound E (Cortisone) and adrenocorticotrophic hormone (ACTH) dramatically relieved rheumatoid arthritis, was a contribution of great importance, so great in fact that Kendall and Hench have recently been awarded the Nobel prize in medicine for their achievement, each receiving a third interest in the prize, the third recipient being Dr. Reichstein, of Basil, Switzerland.

In October, 1949, Armour and Company invited investigators to report their findings at a two-day meeting. The actions of ACTH and Cortisone in relation to a variety of diseases involving over 800 patients were discussed there. This variety of diseases included 45 different clinical entities; however, we will limit our discussion to the neuropsychiatric disorders in which these preparations have been used.

The adrenocorticotrophic hormone has been used by investigators in specific fields of neuropsychiatric disorders. A group at the Allan Memorial Institute of Psychiatry and McGill University, Montreal, made experiments employing from 2.5 to 25 mgm. doses of ACTH in thirty patients in whom anxiety was the most prominent feature[5]. Isotonic saline was used as a control. It was found that there appeared to be a wide individual variation in response to small doses of ACTH. It was also noted that the control injection of isotonic saline with test situations exactly similar to that under which ACTH was given, produced a response similar to that produced by ACTH, especially in those patients who clinically appeared to have the most severe anxiety. This group, however, was primarily interested in the empirical response, rather than actual treatment of anxiety states.

Pincus and Hoagland[6] at the Worcester Foundation used the administration of from 100-200 mgm. doses in three schizophrenics, expected to do well on shock, coupled with studies made on four schizophrenics receiving placebos. They found no significant improvement in two of the patients receiving ACTH, while one showed marked improvement in two to three weeks. He became less withdrawn and better acclimated to ward routine and began to mingle with other patients. This improvement ceased, however, and he relapsed to his former state one week following cessation of treatment. While this work, of course, is not conclusive, their paper contains some rather significant statements which are quoted as follows: "We have also found that favorable prognosis in electroshock therapy of schizophrenic patients is correlated with the degree of responsitivity of the adrenal cortex to pretreatment doses of 25 mgm. of ACTH." "It is possible that all shock therapies (electric, insulin and metrazol) act as repeated violent stresses to discharge excessive amounts of ACTH which thereby activates the patients' sluggish adrenals inducing consequent beneficial metabolic changes."

At New York University and the Bellevue Medical Center, James J. Smith[7] has used ACTH in the treatment of Korsakoff psychosis, acute alcohol intoxication and delirium tremens. All patients in the series received 25 mgm. of ACTH intramuscularly every six hours and received no other medication or supportive measures either before or during treatment with ACTH. Sedation was also withheld.

There was no apparent clinical improvement in two patients with Korsakoff psychosis. There was some diminution in excitement, but all other symptoms remained essentially unchanged.

Two female patients who were acutely alcoholic showed no change on the ACTH regime. However, there was striking improvement in those patients with delirium tremens. With conventional treatment no improvement was noted before forty-eight to seventy-two hours, while with treatment with ACTH improvement was noted within three to ten hours.

It was also noted that the improved appetite and improved sense of well-being seen as a non-specific response to ACTH might be of value in treatment of patients with anorexia nervosa.

In neurological disorders, ACTH has also been used experimentally. Eight patients with myasthenia gravis[8] were treated with 20 to 25 mgm. doses every six hours for five days. Undesirable symptoms of malaise, occasional abdominal cramps, some respiratory difficulty and some EKG changes occurred, and these disturbances became more marked toward the end of the therapy and continued for one to two days following cessation. After this these symptoms disappeared, some improvement of the symptoms of myasthenia gravis occurred, consisting of increase in appetite, decreased fatigability and weakness,

and smaller requirement of neostigmine bromide. This improvement was maintained for many months.

Soffer *et al.* administered forty milligrams of ACTH daily in four divided doses for four days to a patient with myasthenia gravis with a thymic tumor who was on prostigmine therapy. During the period of ACTH administration there was no change in the patient's symptoms or in the daily prostigmine requirements; however, three or four days after ACTH was discontinued, an increase in strength was noted, and the daily need for prostigmine became progressively less so that forty-six days after cessation of therapy the patient had required no prostigmine for over a two-week period. A decrease in the size of the thymus was noted following ACTH therapy but with a return to its previous size within two weeks.

It is further reported that in two patients with myotonia atrophica treated with ACTH some subjective improvement in symptoms was noted, but examinations could show no increase in muscular function during hospitalization[9]. After return home, however, it is stated that there was less fatigue. There was no change in mental status. In two patients treated with progressive muscular dystrophy no improvement was found.

Other investigators[10] have also treated two patients with multiple sclerosis, two with Parkinsonism, one with amyotrophic lateral sclerosis, one with progressive muscular atrophy, and one with progressive muscular dystrophy. These patients received totals of from 200 to 575 mgm. of ACTH given in 25 to 75 mgm. doses intramuscularly four times a day from five to seventeen days. No markedly beneficial results were obtained, but it was noted that in multiple sclerosis there was some improvement in gait, tremor and equilibration while on treatment.

Hoefer and Glasser studied the nature of electroencephalographic and neuropsychiatric disturbances which had been noted in fifteen patients treated initially with ACTH at Columbia Presbyterian Medical Center[11], thirteen on the medical service and two at the New York State Psychiatric Institute, the latter two with a diagnosis of schizophrenia. Of these fifteen, two showed no significant changes in the EEG. All others showed definite changes from moderate to severe in degree, which usually appeared three to five days after treatment had been started and consisted of reduction of amplitude, regularity, and continuity of the basic alpha activity. They also had two cases which had been treated with cortisone; both showed slowing of alpha activity in the EEG. The authors concluded that there is a significant relationship between adrenocortical activity and the electrical activity in the brain. Since prior to the treatment eight of the fifteen showed mildly abnormal EEG, they suggested that metabolic disturbances or other changes of minor degree reflected on activity of central nervous system in these cases. Their work was not confined to the EEG findings alone. They studied the pre-morbid personality characteristics and the mental changes occurring during administration of the drug. In the fifteen studied eight showed no significant abnormal pre-morbid personality features, while five showed emotional instability and four showed schizoid features. Ten of the fifteen showed significant mental changes during the time the drug was being administered. Two of these ten were reported to have had severe reactions. These severe reactions consisted of one stupor state and one manic psychotic reaction. The other changes reported consisted of increased tension and irritability, euphoria, and verbal hyperactivity. All this concludes that there are two factors to be considered in connection with these disturbances. First, an organic mental reaction, and, second, a released psychotic reaction with severe exaggeration of premorbid trends. An example of the first is the stupor state of one of the patients and the correlated EEG abnormalities; an example of the second being the psychotic manic reaction.

The manufacturers of cortisone warn that "While definite improvement in mental attitude of patients receiving cortisone usually occurs, in certain instances an exaggerated sense of well-being, and infrequently a manic state may be produced. Mental depression has been reported. In rare instances, preexisting or latent mental derangement seems to have been intensified or precipitated. The mental changes may occasionally appear during the first few days of therapy. Premonitory signs and symptoms of psychotic reactions occur, such as pronounced swings of mood and insomnia."

Likewise, Armour and Company advise against the use of ACTH in "Known psychotics and psychopathic personalities." In recent months we have had the opportunity of observing a psychotic reaction, apparently precipitated by cortisone, and another apparently precipitated by ACTH.

Brief summaries of these two cases are as follows:

A 51-year old white male was admitted to the Medical College of Virginia Hospital on 7-25-50. History revealed that the patient had had rheumatoid arthritis for three years and that he had been treated since 7-9-50 with cortisone for this condition. He received his first dose of cortisone on 7-10-50 and the last dose on 7-24-50. His son, who was the informant, stated that the patient experienced a feeling of well-being and elation soon after cortisone therapy was started. By 7-18-50 he had episodes of laughing and weeping, and stated to his brother that his whole life was passing before him. Following this, over-activity and over-production of speech progressively increased. However, there were several periods of lucidity lasting for approximately one-half hour. During these times he expressed the idea that his abnormal episodes were resulting from cortisone. On 7-22-50 the patient went to a western movie and during this time began to weep and gave his son all of his money, demanding that he memorize the serial numbers on the bills. He continued to become progressively worse and began calling himself "the cortisone kid." He also was reported to have had some hallucinatory experiences and was referred to the Medical College of Virginia Hospital Emergency Room because of the above stated behavior. Additional history was later obtained, revealing that under physical stress the patient had previously had several transient episodes of vague hallucinations.

On admission the patient was a well developed, white male with a tremor of arms and legs. His speech was spontaneous and irrelevant with much over-productivity. His mood was one of elation. He stated that he was "Adam" and that he had control of the atom bomb. He was completely disoriented and retention and recall could not be tested because of inattentiveness. Insight and judgment were absent. The physical examination was necessarily done with patient under sedation. The examination was essentially negative except for findings consistent with early rheumatoid arthritis. Sedimentation rate on 7-26-50 was elevated. Otherwise, laboratory findings were within normal limits.

The patient continued to be overactive and over-talkative with much delusional content. He was assaultive, combative, destructive, aggressive, and hostile until electric shock therapy was instituted. However, he showed marked improvement after the first two electric shock treatments but this improvement did not hold. Electric shock was continued and after five treatments, he again showed marked improvement, becoming rational, quiet, cooperative, and aware of the circumstances surrounding his hospitalization.

He was transferred to a Veterans Administration Hospital on 8-3-50, where he received further electric shock therapy and was discharged on 9-12-50, as improved.

The second case is a 64-year old white female, admitted to the Medical College of Virginia Hospital on 10-2-50. History revealed that on 9-11-50 the patient began treatment with ACTH for chronic arthritis. She was given ten milligrams four times a day for eleven days while hospitalized in a local hospital in her hometown. The ACTH apparently improved her arthritis, allowing her to enjoy some movement of joints which had previously been painful and ankylosed. However, it was noted by the family that toward the end of her hospitalization, she became somewhat euphoric and also expressed some unusual ideas as manifested by the fear that the "hospital might catch on fire." She also stated that she could hear a patient in the room above her who was "not in his right mind and might come down to my room." A relative to whom she was closely attached died while the patient was hospitalized, and she appeared to express no regrets or sorrow regarding this. She showed a progressive verbosity, became forgetful, and would often lose the trend of her thought. On her discharge from the local hospital, she continued to be over-talkative, forgetful, and circumstantial. She would take long periods to do minor acts, spending as long as twenty minutes brushing her teeth. Approximately one week prior to admission to the Medical College of Virginia Hospital, the patient took as long as two hours to eat a meal. Five days prior to admission she showed echolalia and paralalia and began to suffer some insomnia. For three days previous to admission, she showed some depression and almost constantly repeated the word, "why." The patient exhibited tenacious holding of thoughts and words, continuing to express a word in many variations as follows: "Is anyone going to check that? When it is checked, it will be checked, and then after it is checked, I will double-check it so that it will be checked." She also complained of olfactory hallucinations. She received

sedation from her local physician and on the morning of admission to the Medical College of Virginia Hospital was unable to recognize her family.

A study of the patient's past psychiatric background revealed that no childhood neuropathic traits were known. The informants stated that the patient had always been a gentle, undemanding person who had depended on others for her decisions and had shown helplessness in the face of the smallest problem. The patient was said to have been timid, but had borne her troubles with great fortitude and had not burdened others with the pain and suffering concomitant with her severe arthritis.

On admission to the Medical College of Virginia Hospital the mental status was as follows: The patient was a small, chronically ill, emaciated individual who was talking constantly and somewhat incoherently. She showed much emotional lability varying rapidly between periods of euphoria and depression. She was able to answer simple questions with simple statements. She exhibited flight of ideas and echolalia, and would readily respond to any verbal stimulus, continuing a thought far beyond its logical end. The patient was markedly disoriented.

Physical examination revealed a blood pressure of 224/110, pulse 120, and temperature 101° rectally. Other findings were consistent with a severe arthritis. Laboratory studies were essentially normal. Electrocardiogram was normal except for an occasional ventricular extrasystole. An electroencephalogram was performed on 10-6-50 which revealed an extremely disorganized tracing. There were high amplitude slow waves with fast activity superimposed, some appearing as spikes. It was felt that a conservative course of treatment should be instituted and the patient's response observed before consideration of any specific therapy. She was, therefore, treated with intravenous fluids, vitamins, and general supportive therapy. The patient was incontinent at time of admission. For the first two days of her hospital stay her condition remained essentially that of admission. On 10-4-50, however, she was quieter and did have a fairly lucid period, lasting approximately two hours, during which time she spoke rationally and with coherence. She continued in this manner, showing progressive improvement in her restlessness and over-productivity. Her confusion continued, but did not appear as marked several days after admission.

Approximately a week after admission, the patient was no longer incontinent and on the thirty-first hospital day appeared exceptionally clear and maintained this state. There were some short, transient episodes of confusion but these were not marked. The patient maintained a good level, was able to mingle well with the other patients, and was friendly and cooperative. She was discharged on 11-14-50 as markedly improved.

In both of the above cases, the toxic symptoms developed during the administration of the drugs. However, internists, who have had considerable experience with these preparations, have noted that withdrawal effects are not uncommon. These consist of anorexia, lassitude, weakness, and mild depression. Since euphoria is commonly noted during the administration, these withdrawal symptoms may often be relative rather than actual.

In addition to the psychotic manifestations of toxicity described above, other toxic symptoms of non-psychiatric nature have been noted following administration of ACTH and Cortisone. These include hirsutism, acne, edema, amenorrhea, muscular weakness, impairment of carbohydrate tolerance, negative nitrogen balance, hypochloremic and hypopotassemic alkalosis, weight changes, and rises in blood pressure.

Thus we find that—as is usually the case with powerful therapeutic agents—ACTH and Cortisone may produce a variety of toxic effects. It is the purpose of this paper to call attention to some of the reactions which may occur. No attempt has been made to show the incidence of toxic effects, and it is fully realized that the two cases presented are of no statistical value. That no far-reaching conclusions may be formulated from a study of these cases is evident. However, it is hoped that the above discussion may help to prevent over-enthusiasm and indiscriminate use of these valuable additions to our pharmaceutical armamentarium.

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Cure Heart Condition by Removing Membrane.

A serious heart condition, caused by tuberculous inflammation of the membrane which surrounds the heart, is being cured by two San Francisco doctors through surgical removal of the diseased membrane.

Pericardiectomy—as the removal of this membrane is called—was performed on four patients suffering from tuberculous pericarditis. The doctors report three of the patients are cured and the fourth shows progressive improvement.

The May 5th *Journal of the American Medical Association* carries this report by Drs. Emile Holman and Forrest Willett of the Stanford University School of Medicine and the San Francisco Veterans Administration Hospital.

The mortality rate from tuberculous pericarditis has been high. Tuberculosis germs attacking the membrane around the heart cause it to become thickened and inflamed, putting pressure on the heart. Patients become increasingly disabled by cardiac compression. In the past, patients have been treated by prolonged bed rest.

New Books

The following are among the recent books received at the Tompkins-McCaw Library of the Medical College of Virginia, and are available to our readers under usual library rules,

Apperly—Patterns of disease on a basis of physiologic pathology.

Association for research in nervous and mental diseases—Life stress and bodily disease. Vol. 29, 1950.

Bourru—L'art de se traiter . . . dans maladies vénériennes. 1770.

Collected reprints of the grantees, National Foundation of Infantile paralysis. 1949.

Cornell conferences on therapy. Vol. 4, 1951.

Directory of medical specialists. Vol. 5, 1951.

Horsfall, ed.—Diagnosis of viral and rickettsial infections.

Kemp—The value of hormones in general practice.

Kidd, ed.—The pathogenesis and pathology of viral diseases.

Koch—Militant angel.

Meigs & Sturgis, eds.—Progress in gynecology. Vol. 2, 1950.

Most. ed.—Parasitic infections in man.

Scheinker—Medical neuropathology.

1950 yearbook of dermatology and syphilology.

1950 yearbook of pathology and clinical pathology.

A SURVEY OF OBSTETRICS BY GENERAL PRACTITIONERS IN A SMALL GENERAL HOSPITAL*

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The Martha Jefferson Hospital in Charlottesville is a 60 bed private general hospital with 16 obstetrical beds. This paper will present a statistical study of the 3,990 deliveries performed there in the past 16 years. Only those cases which had reached 7 months gestation were included in this study. Virtually all of these deliveries were performed by general practitioners on private patients who had been given prenatal care by the physicians doing the deliveries.

Table I gives the general statistics on the entire group. Primiparas constituted almost half of the cases and slightly more than half were 25 years of age and under. 93.8 per cent had occiput anterior presentation at the time of delivery, 2.6 per cent were persistent occiput posterior, 3 per cent had breech presentation and .6 per cent had other abnormal presentations. 77 per cent of the deliveries were spontaneous, almost 20 per cent were by forceps, 2 per cent were by version and 1.1 per cent by cesarean section.

Table I

Total Number of Deliveries		3990
Primiparas		49%
Multiparas		51%
Age Distribution		
Under 26 yrs.		53%
26-35 yrs.		39%
36 and over		8%
Presentation		
Occiput anterior		93.8%
Persistent occiput posterior		2.6%
Breech		3.0%
Other presentations		.6%
Mode of Delivery		
Spontaneous		77.0%
Forceps		19.9%
Version and extraction		2.0%
Cesarean section		1.1%
Maternal Mortality		.048%
Fetal Mortality		2.7%
Toxemia of Pregnancy		1.1%
Placenta Praevia		.45%
Postpartum Hemorrhage		7.0%
Maternal Morbidity		6.2%
Multiple Births		0.9%
Twins	34	
Triplets	1	

The reported incidence of cesarean section varies widely over the country. For the city of Detroit the incidence in 1945 was 2.5 per cent[1], while for the same year Chicago had 3.67 per cent[2]. A recent series from Duke Hospital reports an incidence of 3.8 per cent on private patients and 0.66 per cent on ward cases[3].

There were 2 maternal deaths in our series, constituting a maternal mortality of .048 per cent. One of the maternal deaths occurred during the early part of the period and was caused by hemorrhage and shock due to placenta previa. The other death occurred in 1948. It was due to pulmonary embolism on the ninth postpartum day in a primipara who had been delivered by low forceps.

Our maternal mortality rate of .48 per thousand is better than most reported series. From Bethesda Hospital in Cincinnati a report of 15,088 deliveries gave a maternal mortality rate of 1.7 per thousand[4]. The figure for the state of Virginia in 1947 was 1.7 per thousand and for the entire United States in 1945 was 2.1 per thousand.

The gross fetal mortality was 2.7 per cent. This figure also compares favorably with other series. The Cincinnati series[4] had an infant mortality of 4.5 per cent.

Toxemia of pregnancy was present in 1.1 per cent of the cases and placenta previa in .45 per cent.

Hemorrhage was considered present when the estimated blood loss was 500 cc. or more. This occurred in 7 per cent of our series. The incidence of hemorrhage for the first 10 years of this study was 10 per cent and for the last 6 years was 4.2 per cent. While this is a definite improvement, the figure is still too high. Dieckman at the Chicago Lying-In reports an incidence of 2.5 per cent[5].

6.2 per cent of the mothers had puerperal morbidity, i.e., a temperature of 100.2 degrees by mouth on any 2 postpartum days. This morbidity rate has

*Read before the annual meeting of the Medical Society of Virginia at Roanoke, October 8-11, 1950.

not improved during the years of this study. In a series of 3,457 deliveries at the Evanston Hospital, Cummings reports a maternal morbidity rate of only 3.64 per cent[6].

There were 34 sets of twins and one set of triplets in the series.

Table II shows the breakdown of the fetal mortality cases. Of the 107 deaths, 66 were stillborn

TABLE II
FETAL MORTALITY

107 cases		2.7%
Stillbirths	66	
Neo-natal deaths	41	
Congenital anomalies	12	
Corrected fetal mortality		2.3%
1934-44 3.5%	1944-50	2.1%

Presentation

	% incident in fetal mortality cases	% incident in entire series
O A	76.0	93.8
O P	7.0	2.6
Breech	15.0	3.0
Others	2.0	0.6

Mode of Delivery

	% incident in fetal mortality cases	% incident in entire series
Spontaneous	69.0	77.0
Forceps	19.0	19.9
Version	8.0	2.0
Cesarean	4.0	1.1

Causes of Infant Death

Hemorrhage or trauma	20	Cord Complications	6
Prematurity	15	Placental complications	5
Anomalies	13	Miscellaneous	35
Unknown	13		

and 41 died within the first 2 weeks of life giving a gross mortality rate of 2.7 per cent. There were 12 cases of congenital anomalies incompatible with life, making the corrected fetal mortality 2.3 per cent. A gratifying decrease in fetal mortality was seen when the rate for the first 10 years of the period covered by this study was compared with that of the last 6 years, the percentage having come down from 3.5 to 2.1. A study of the percentage incidence of the various presentations in the fetal mortality group showed a significantly higher incidence of all of the abnormal presentations. Also the operative deliveries other than forceps occurred about four times as frequently as they did in the series as a whole. The causes of infant deaths were so varied that classification was difficult. Intracranial hemorrhage or obstetrical trauma was the apparent cause in 20 cases, prematurity was the cause in 15, while congenital anomalies and stillbirths of undetermined cause constituted 13 cases each. Complications of the umbilical cord and placenta caused 11 deaths and the remaining 35 deaths were due to a wide variety of causes.

Table III gives percentage rates for infant mortality, hemorrhage and maternal morbidity in the

TABLE III
RESULTS OF OPERATIVE DELIVERIES

	Fetal Mortality (2.7%)	Hemorrhage (7.0%)	Morbidity (6.2%)
Low Forceps	0.8%	8.9%	8.8%
Mid and High Forceps	16.5%	8.7%	33.0%
Version and Extraction	11.4%	25.0%	14.0%
Cesarean	8.7%		8.0%

Figures in parenthesis indicate series incidence of that item.

operative deliveries. The percentage figures in parenthesis are the rates for the entire series. Blood loss in cesarean sections was not determined. Low forcep deliveries had a lower infant mortality and the incidence of hemorrhage and maternal morbidity was not significantly higher. In mid and high forceps the infant mortality and maternal morbidity were greatly increased. In version and extraction all three figures were considerably increased. Cesarean section had a significantly higher infant mortality.

44 cases of toxemia (Table IV) constituted the extremely low incidence of 1.1 per cent. Two fac-

TABLE IV
TOXEMIA

44 cases		1.1%
Eclampsia	9	
Pre-eclampsia	35	
Cesarean Deliveries		
1934-1944		16%
1944-1950		4%
Fetal Mortality		
1934-1944		16%
1944-1950		16%

tors contribute to this fact. The proximity of the University of Virginia Hospital, with its greater facilities and personnel for handling the more complicated cases, results in most of the patients who have had inadequate prenatal care going to this institution. Secondly, all of the patients in this series were private patients and the low incidence of toxemia indicates a high degree of good prenatal care.

9 cases of eclampsia occurred in this series which is about the same incidence as reported from the Chicago Maternity Center in 1933 where 10 cases were found in 5,486 deliveries[7]. An interesting change in the trend away from cesarean section as a method of delivery is shown in this table. During the years of 1934 to 1944 16 per cent of the toxemia cases were delivered by section, while from 1944 to 1950 only 4 per cent were so delivered.

Fetal mortality in these cases was 16 per cent throughout the series. Apparently little progress has been made in reducing fetal mortality in cases with toxemia.

Persistent occiput posterior (Table V) was present in 102 cases. 44 per cent of these delivered spontaneously without rotating to the anterior position. 17 per cent were delivered with forceps after rotation, while forceps extraction with the occiput still posterior was done in 33 per cent. Version and extraction was done in 6 per cent. Fetal mortality in this group was triple that of the entire series, maternal morbidity was double, while the incidence of hemorrhage was unaffected.

Table V

Persistent Occiput Posterior

102 cases	2.6%
Mode of Delivery	
Spontaneous	44.0%
Forceps with rotation	17.0%
Forceps without rotation	33.0%
Version and extraction	6.0%
Fetal Mortality (2.7%)	6.3%
Hemorrhage (7.0%)	5.1%
Maternal Morbidity (6.2%)	12.7%

Figures in parenthesis indicate series incidence of this item.

In Table VI a marked change in the methods used to induce labor is shown. During the years 1934 to 1944, bag or bougie induction was carried out 22 times and rupture of membranes was done 39 times. During the past 6 years bag or bougie was used only twice whereas rupture of membranes was done 204 times. These 204 cases were studied to determine the safety of this procedure as carried out in our hospital. It can be seen that no significant difference is present in fetal mortality, maternal morbidity or the incidence of hemorrhage.

Table VI

Surgical Induction of Labor

Method	1934-1944	1944-1950
Bag or Bougie	22	2
Rupture of Membranes	39	204
Results in 204 Cases of Rupture of Membranes		
Maternal Mortality (.048%)		0
Fetal Mortality (2.7%)		2.5%
Maternal Morbidity (6.2%)		8.4%
Hemorrhage (7.0%)		4.9%

Figures in parenthesis indicate series incidence of this item.

Table VII

Antepartum Vaginal Examinations

Frequency	
1934-1944	19%
1944-1950	7%
Maternal Morbidity (6.2%)	10.5%

Figure in parenthesis indicate series incidence of this item.

The last slide shows a study of the patients who had vaginal examinations during labor. The frequency of this procedure diminished from 19 to 7 per cent during this study, and the maternal morbidity was apparently increased in these cases.

In summary, a statistical study of nearly 4,000 deliveries by general practitioners at the Martha Jefferson Hospital in Charlottesville reveals a low incidence of serious complications and exceptionally low mortality rates.

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Discussion

Dr. John O. Boyd, Jr., Roanoke: I think all of us have heard many times that statistics can be made to prove anything you want to prove but I don't believe that any of us in this instance could take exception to the manner in which Dr. Daniel has analyzed the cases in Martha Jefferson Hospital. In comparing them with similar statistical analyses of other institutions I have been very much impressed, and I am sure you have, by the favorable way his figures compare. Really it leaves very little for me to say.

There is no discussion I can see except to commend Dr. Daniel and the staff of the Martha Jefferson Hospital for the very excellent way in which they handled their patients as shown by this objective analysis.

I think perhaps there are some lessons we may learn with

benefit to all of us. To me this analysis is of particular value for the reason that our chairman pointed out, the type of hospital in which this study was made. So many times, and to the best of my knowledge in practically every instance, such reports have concerned themselves with teaching institutions. I think we hold nothing but commendation for the teaching institutions and all they have done for us but I don't believe many of us out in practice can help but appreciate the fact that we have had to learn to get along without a lot they have. We have had to improvise and change things to suit circumstances and we have wondered frequently, at least I have, just what effect this might have on a critical analysis, an objective analysis, of results obtained under other circumstances. I think the opportunity afforded here gives us a partial answer to this and I hope will encourage those of us who are in similar institutions not actively affiliated with the teaching schools to carry out similar studies for our own edification.

Something else that was very important which Dr. Daniel pointed out to us was the availability of expert consultation through the University of Virginia Hospital. He implied a spirit of cooperation between the obstetrical staff there and attendants of the Martha Jefferson Hospital, which is certainly to be desired whenever such consultants are available.

Something further I believe we could gather from this study, at least in explanation of the very favorable comparison between the figures at Martha Jefferson and the other analyses referred to, might be the conservatism that seems to be apparent there. Dr. Groseclose pointed out that one of the modern trends is that men experienced in obstetrics are increasingly recognizing the value of conservatism. In spite of everything we are becoming less radical and conservatism is the thing that counts. The low incidence of Caesarean delivery might well be a factor in the very commendable results that have been obtained at Martha Jefferson Hospital.

I think that the value to the staff of this analysis is tremendous and that they will benefit from it as much as any other individuals concerned. We are indebted to Dr. Daniel and to the staff for making available to us this study.

DR. E. S. GROSECLOSE, Lynchburg: I hope the audience will pardon me for rising again but I don't want to fail to take this opportunity to commend Dr. Daniel for this report. To me it is little less than remarkable. I think his figures are outstanding and I hope that the figures he has given have shown that the trend is now as I tried to present in my paper. To me this presentation is an outstanding report. I, for one, have always been a great admirer of the general practitioner and after seeing and hearing his report, being a specialist, I again want to commend them for the work they have done. I think it is a remarkable series of figures. I think they should be commended by every physician in the State.

QUESTION FROM THE FLOOR: I hope that Dr. Daniel in closing will indicate what rules or regulations, if any, exist in his hospital for consultation in complicated cases,—that is, whether there is consultation between other members of his staff or whether consultants are called from the outside, or whether major operations are done with or without consultation.

DR. DANIEL: Thank you for the discussion and favorable comments.

As to the question on consultations—we have no set policy, no set rules by which we operate the consultation field at our hospital. In the matter of caesareans, there are three general practitioners who do their own caesareans. The rest of us call in surgical help for that. I don't think there is any rule about the performance of a consultation in regard to caesareans, but certainly 95 per cent at least of the caesareans performed were done on patients on whom consultations had been had. Due to the proximity of University Hospital, our consultations have nearly always been with members of that staff rather than with members of our staff.

I am glad Dr. Boyd pointed out, or mentioned, at least, the value of such a study. I would like to make a few remarks about the helpfulness of such a study to any hospital. This presentation here, of course, was only a very small part of the whole study. Actually our own study is divided, even down to the staff members who were involved, so we had precentage figures for each doctor as well as for the entire group, and, while we did not advertise it, we were able to present it so each doctor knew his own figures without being able to recognize the others. It was a great help in that line. This is a type of study which can be carried out in general hospitals with relative ease provided it is properly planned and the mechanics worked out well in advance, and I would like to urge that other small hospitals do it, not necessarily for the value it has for the profession as a whole but for the hospital itself. By using a trained medical librarian, who gives only a small part of her time to this work, each chart on the hospital patient is processed with this study in mind by a punch card system which is very easily worked out. It is important that the plan for the study be well worked out and completely agreed upon before it is started, but it is a method of study and method of analysis extremely important and well worth the effort it takes.

HYPERSPLENISM IN INFANCY AND EARLY CHILDHOOD: A REPORT OF THREE CASES*

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The concept of hypersplenism as it now stands may be used to explain the pathological physiology seen in a number of different clinical conditions.[1,2] There have been numerous reported cases occurring either as primary or secondary states, but few of these have been in the pediatrics age group. During the past year we have studied three cases of hypersplenism. It is the purpose of this paper to report two unusual cases of panhematopenia and one case of congenital hemolytic anemia in crisis during the fourth week of life.

Hypersplenic syndromes, as described by Doan,[1] Wiseman,[5] and Dameshek,[2] may be manifested as congenital hemolytic anemia, primary thrombocytopenia, splenic neutropenia, or, as occurs in combination, splenic panhematopenia. It is recognized by most investigators that these states may be due to either primary alteration of the splenic physiology, or may be secondary to a number of well-recognized pathological states, either localized in the spleen or generalized throughout the body. The exact mechanism by which the above conditions are produced by the spleen is still not agreed upon by all investigators. Doan, Wiseman, Wright, and others,[3,4,5] believe that they may be due to splenic parenchymal cellular hypersequestration plus an excessive concentration of some lytic enzyme, i.e., lysolecithin, plus reticuloendothelial cell hyperplasia and hyperphagocytosis, in addition to an abnormal cell in some cases. Dameshek,[2] on the other hand, feels that the spleen elaborates an inhibiting substance which acts on the specific cellular elements in the bone marrow. This inhibition of the marrow is reflected in the peripheral blood by a diminution in number of the affected element, whether it be the red cell, granulocyte or platelet. Both of these schools of thought have much experimental and clinical data to support them in their views. In different cases, one or more of these mechanisms may be at work to produce the syndromes known as hypersplenism. Whatever the mechanism may be, everyone is agreed that splenectomy is usually curative in the primary cases and may produce a favorable response in the secondary ones unless one of the contraindications for splenectomy is present, as will be mentioned later.

In general, the diagnosis of hypersplenism rests upon the history—which is dependent upon whether the cellular element involved is the red cell (anemia), granulocytopenia (recurrent infection), thrombocytopenia (bleeding tendencies), or a combination of these;[7] the physical findings—either with or without splenomegaly to support the history; and, probably the most important, the laboratory findings of depression of any or all of these elements in the peripheral blood. The bone marrow may be normal or hyperplastic[6] for one or all of the cellular elements—with or without maturation arrest. Other laboratory data such as serum bilirubin, fecal urobilinogen, reticulocyte counts, fragility tests, may help in evaluating any particular case.

Secondary hypersplenic states may involve processes such as leukemias and similar malignancies, tuberculosis and similar infections, Gaucher's disease, and especially myeloid metaplasia of the spleen, and their place should be thoroughly evaluated.

Splenectomy should never be resorted to where there is diffuse bone marrow damage or aplasia which has caused the spleen to take over a large part of active blood formation, even though at the same time it may be also over-actively destroying blood elements.

Case Reports

Case I: H. C., a five year old colored female was first admitted to the hospital on December 6, 1945, complaining of sore throat, pain in abdomen, vomiting, and pallor of four days duration. Physical examination at that time showed a pale, acutely ill child with a temperature of 101°. There was a greenish-yellow color of the sclerae. A loud systolic mur-

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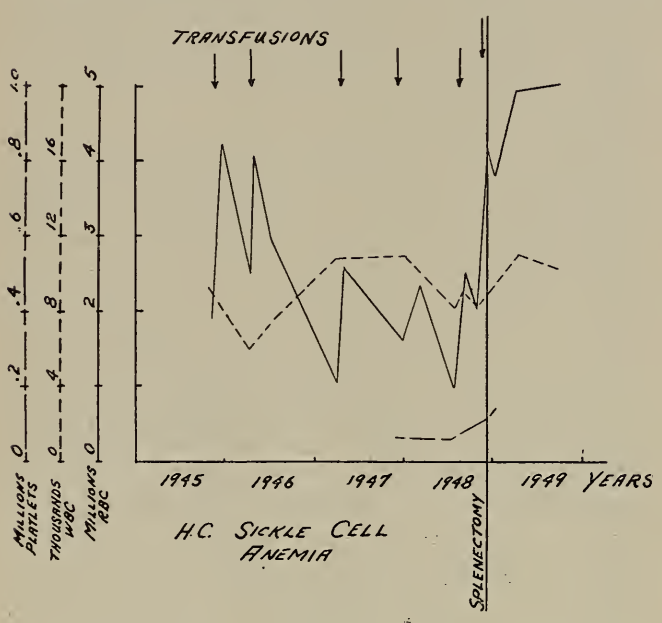
mur was heard over the entire precordium. Apical rate was 140. The spleen was markedly enlarged, extending almost to the midline medially and down four finger breadths below the right costal margin.

Red count at that time was 1.9 million, with a hemoglobin reported as less than 7. Sickle cell test showed 50 per cent sickling at the end of two hours.

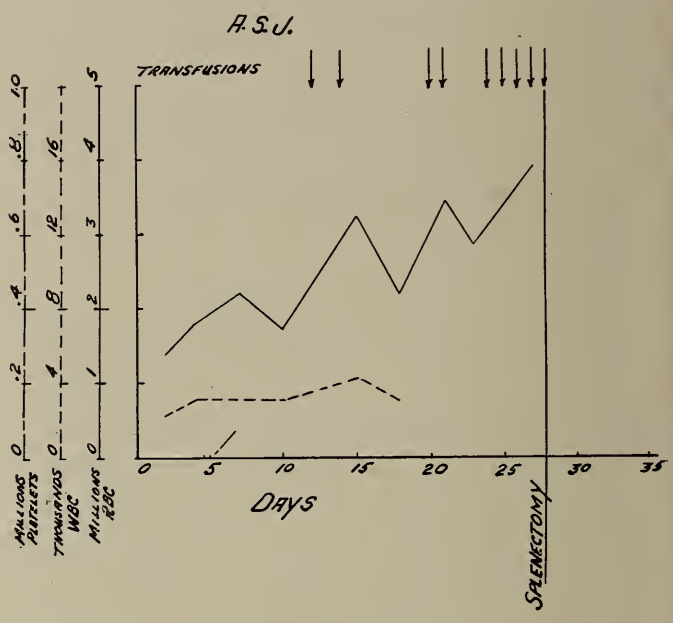
Following this admission the child was followed in the outpatient department, somewhat erratically, and was readmitted to the hospital on three occasions between January, 1946, and July, 1948. There



was very pronounced anemia. During these admissions relatively large quantities of whole blood were necessary to produce much change in her blood counts. (Laboratory data included in Chart I.)

On the fourth admission, July 4, 1948, the child was admitted with a history of fatigue, listlessness, and headache, associated with high fever and persistent nose bleed of 24 hours duration. Physical examination on this admission was essentially that of a well-developed, undernourished seven year old child with marked pallor and mild icterus of the skin and mucous membranes. Pulse was 150, temperature 102°, and blood pressure was 110/70. There were several small hemorrhagic areas over the tonsils. The liver was felt two finger breadths below the right costal margin. The spleen extended down to the umbilicus and one to two finger breadths to the left of the iliac crest.

Admission blood counts showed 1 million r.b.c., with 2.5 gm. hemoglobin. Uncorrected white count was 15,000, with a normal differential. The red cells were markedly hypochromic, with marked sickling. During the next six hospital days the patient received multiple transfusions. The first two transfusions were followed by marked febrile and hemolytic reactions. Following these transfusions, the hemoglobin was 3.5 gm. with 1.4 million r.b.c. The child was seen in consultation by the department of hematology, and she was placed on an extract of whole hog spleen. Examination of the bone marrow showed a normoblastic hyperplasia, with an erythroid myeloid ratio of 3. Bleeding time, clotting



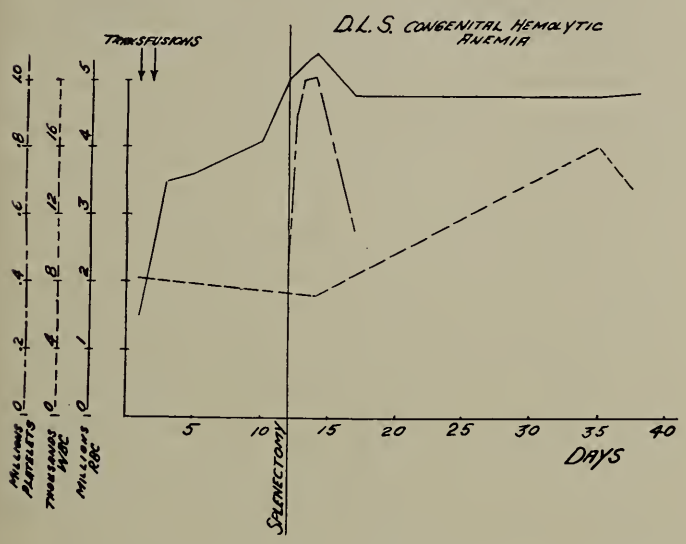
time, prothrombin time, and fragility test were all normal. Sickling test showed 4 plus immediate sickling. During this time the child was on the spleen extract, but no improvement in the blood picture was noted in the repeated blood counts. The child's hemoglobin varied from 3 to 6 gm., while the r.b.c. ranged between 1.52 and 2.5 million, with up to 42 per cent nucleated red cells. Uncorrected white count remained around 8,000 to 14,000. Platelets on several occasions varied between 42,000 and 60,000, and reticulocyte count ranged from 2.5 to 10 per cent. Fecal urobilinogen values were between 1,040 and 1,452 mg. per 100 gm. feces. The child was discharged on the 31st hospital day afebrile, with 5.8 gm. hemoglobin and 2.5 million r.b.c.

Two months after discharge this child was readmitted, showing no improvement in her blood picture, though she had continued taking the spleen extract. She had been doing relatively well until two days prior to admission, at which time she began running a fever, complaining of abdominal pain, and

for twenty-four hours prior to admission she had had almost a continual nose bleed.

Physical examination showed a poorly nourished, acutely ill, very pale, somewhat icteric colored female, with epistaxis. Temperature was 104.5°, with remaining physical examinations as on previous admissions.

Admission laboratory work showed a hemoglobin of 3 gm., with 900,000 r.b.c. W.b.c. revealed 7,300 with the differential showing 210 nucleated r.b.c. per



100 w.b.c., with a white cell differential normal. During the next two weeks the child was given multiple transfusions, which totaled 14 pints of whole blood. Her hemoglobin never rose above 5 gm. On November 5, 1948, in view of her failure to respond to multiple transfusions, a splenectomy was done, even though most sickle cell anemias were known not to respond to this. However, the size of the child's spleen and the fact that she was showing active blood destruction plus the probability that the huge spleen was trapping large quantities of blood indicated that she would probably benefit. Preoperatively she received 1,500 cc. of blood within a period of thirty-six hours, and during the operation she was given 1,000 cc. The child withstood the procedure well, and her post-operative course was essentially uneventful. Forty-eight hours after operation her hemoglobin was 11.5 gm., with 4.13 million r.b.c. Corrected white count was 3,900. Differential showed 288 nucleated red cells per 100 white cells, with an otherwise normal differential. Following this the child's counts became stabilized at 7 to 7.5 gm. of hemoglobin, with 3.1 to 3.9 million r.b.c. Platelet count was 135,000 per cubic mm. Fecal urobilinogen values a week postoperatively were 800 mg. per 100 gm. of feces. The child was discharged from the hospital asymptomatic on the 41st hospital day.

The child was readmitted to the hospital in March, 1949, for tonsillectomy and adenoidectomy, and she had been asymptomatic since the last discharge. Her hemoglobin was 9.4 gm., with 4.96 million r.b.c. and 11,800 w.b.c., with 1.2 per cent reticulocyte count. Bone marrow done at that time showed a normoblastic hyperplasia, with an M:E ratio of 1.2:1. Bleeding time and clotting time were normal, and clot retraction was good in one-half hour. Indirect van den Bergh showed 0.75 per cent.

The child was seen again in September, 1949, and was found to have been asymptomatic during the interim. Physical examination was essentially negative at this time. Hemoglobin was 9.4 gm., with 5.7 million r.b.c. and 10,800 w.b.c. Reticulocyte count was 2.3 per cent, while the hematocrit was 31.5. Serum bilirubin was 0.66 mg.

Pathology Report: The spleen was enormously enlarged, weighing 1,850 gm. and measuring 25 x 15 x 8 cm. The capsule was smooth except for a large depressed scar on the anterior surface. On section the tissue was brown and firm. Microscopic examination showed a greatly altered structure. The splenic pulp was packed with red cells, many of which showed sickling. The Malpighian bodies were small and consisted of a few scattered lymphocytes. The splenic arteries were very thin-walled. A few scattered cells resembling megakaryocytes were found in the splenic pulp. There was an increase in the splenic connective tissue, which in some areas contained hemosiderin.

Comment: Splenectomy in sickle cell anemia is usually of little benefit,[8] but in this child who was presented at the hospital on several occasions in acute hemoclastic states and who developed thrombocytopenia and neutropenia while being followed and who showed little or no response to transfusions as progression occurred, splenectomy has been of marked benefit. A ten months follow-up has shown stabilization of her blood counts at a satisfactory level and no further episodes of epistaxis. Although hematological data at fifteen months after operation is not available, clinically the child is active, having been converted from chronic invalidism to normal activity by splenectomy.

Case II: A. S. J., a four year old colored female, was admitted to the hospital with the complaint of a mass in the abdomen of several months' duration. The mother was of borderline intelligence, and had noted only ease of bruising of several months' duration and an upper respiratory infection of two weeks' duration. She was taken to a physician because of the respiratory symptoms, and he referred her to the hospital. Past history and family history were noncontributory to her present illness.

Physical examination at the time of admission showed a thin, four year old female, with marked pallor and extremely small extremities. Weight was 32 pounds, temperature was 101.6° rectally. Except for a loud blowing systolic murmur over the entire precordium and a few shotty axillary lymph nodes, the physical findings of significance were limited to the abdomen. There was a marked visible asymmetry of the abdomen, with bulging of the left side. A firm mass was felt which occupied the whole abdominal left upper quadrant and extended below the left iliac crest and to the midline. The edge was sharp. The liver edge, which was firm, smooth, and sharp, was palpable 1 cm. below the right costal margin.

Laboratory findings on admission showed normal routine urinalysis. Her hemoglobin was 3 gm., with 1.8 million r.b.c., and the total white count was 3,000, with 2 per cent myelocytes, 3 per cent juveniles, 2 per cent bands, 28 per cent PMNs, 60 per cent lymphocytes, and 5 per cent transitional monocytes. Platelets numbered 53,000 and there were 3.2 per cent reticulocytes. There was marked anisocytosis, poikilocytosis, and microcytosis. A concentrate of the peripheral blood showed a few large pathological lymphocytes, but no immature cells. There was granulocytic and erythrocytic hyperplasia of the bone marrow, with an M:E ratio of 5:1. There were also many lymphoid and reticular elements, but very few "blasts" were present. Bleeding time was 14½ minutes with clotting time, by the Lee and White method, of 3½ minutes. There was little or no clot retraction at the end of twenty-four hours. Prothrombin time was 16 seconds, with a control of 13 seconds. A prothrombin consumption test was normal. Icterus index was 33, with a slightly positive direct van den Bergh, while the serum bilirubin was 4 mg. per cent. Total protein was normal. The tuberculin skin test was positive.

Numerous other tests were carried out in an attempt to rule out or confirm other disease processes which produce a secondary hypersplenism. These included histoplasmin skin tests, x-rays of the long bones, chest, abdomen, intravenous pyelograms, bone marrow culture for histoplasma, fragility tests, Coomb's test, and tests for sickling. All of these were normal except for the x-rays of the abdomen and intravenous pyelograms which revealed only the large abdominal mass.

During the several days following admission, the child's blood counts and other laboratory findings remained on repeat studies essentially the same. A diagnosis of hypersplenism with panhematopenia was made, although it was felt that this still might be secondary to some other disease process not otherwise manifest at that time. On the twelfth and fourteenth hospital days the patient was given two transfusions of 250 cc. of whole blood, following which her hemoglobin rose to 6 gm., and the red count was 2.21 million. At this time the child began to show daily temperature spikes to 103.5° rectally which did not respond to penicillin and examination did not reveal any new findings. At the same time her counts began to fall again sharply.

It was decided that splenectomy offered this patient her only hope, and she was given daily transfusions of 250 cc. for four days. Prior to her last transfusion her counts had risen to 9.5 gm. hemoglobin and 3.93 million r.b.c. Bleeding time remained markedly prolonged, and the prothrombin time continued to be elevated (18 seconds with control of 13 seconds) in spite of daily Vitamin K. Although her condition remained poor, it was felt that further delay would gain nothing.

On the 28th hospital day, a splenectomy was done, and at the time of operation bleeding was minimal. However, approximately three hours post-operatively the patient suddenly went into shock. She was placed in oxygen and given 400 cc. whole blood. Her blood pressure rose to 70/50, but while still receiving blood she expired quite suddenly, six hours postoperatively.

Autopsy Report: The autopsy was performed twenty-seven hours after death. Pertinent findings were 940 cc. of unclotted blood in the abdominal cavity. No source for the bleeding was found. All the ligatures on the splenic vessels were secure. There was no evidence of obstruction of the splenic vessels. A small subpleural tuberculous lesion was found in

the apex of the right lung. The associated hilar lymph node was caseous. No other evidence of tuberculosis or other systemic disease was evident. There was a moderate generalized enlargement of all the lymph nodes in the body. The liver showed areas of congestion but was otherwise normal.

The spleen weighed 720 gm. (normal 39 gm.) and measured 18 x 12 x 6 cm. The organ was of normal configuration. The capsule was smooth with no adhesions. The cut surface revealed dark red firm tissue, and the Malpighian bodies were not prominent. On microscopic examination the sinusoids and pulp were engorged with normal appearing red cells. There was moderate increase in the connective tissue. The germinal centers of the Malpighian bodies were active. A few scattered areas of erythropoesis were seen. Very little pigment was seen.

Comment: This child had evidence of blood destruction as indicated by indirect serum bilirubin of 4 mg. per cent which was maintained. All tests to demonstrate a hemolysin in the blood were negative. There was marked neutropenia and thrombocytopenia. Coupled with these three processes was a hyperplastic bone marrow. All efforts to demonstrate a systemic disease that might give these findings were unsuccessful.

The indications for splenectomy seemed quite clear. It is unfortunate that postoperative hemorrhage terminated the case quite suddenly so that proof that her hematological course would have been changed is lacking.

On post-mortem examination no systemic disease or evidence of portal obstruction was found to explain the splenomegaly. Thus it would seem that this patient would be classified as a primary hypersplenism with panhematopenia, and she should have responded well to splenectomy if hemorrhage had not supervened.

Case III: D. S., a five weeks old female infant was brought to the hospital with the complaint by the mother of having done well following a full term normal pregnancy until the age of four weeks, when the diapers were noted to be stained a red color after voiding. This had continued until just prior to the time of admission to the hospital. The urine itself was never noted by the parents, but they felt that the stains were coming from that source. Two days prior to admission the baby began to take its feedings poorly, became very pale, and on the day prior to admission a yellowish tinge to the skin had been noted. The family history was significant in that the father had undergone a splenectomy while in the service because of recurrent jaundice which had required transfusions, often with only transitory benefit. Following splenectomy he had been asymptomatic. It was the father's impression that he had malaria, but examination of his blood smear revealed definite spherocytosis. The rest of the history as obtained was negative.

Physical examination revealed a well developed, poorly nourished seven pound six ounce infant who was extremely sluggish and appeared acutely ill. Her hydration was poor and the temperature was 100.8° rectally. There was marked pallor of the skin and mucous membranes with mild icteric tinge. The apical heart rate was 160 with a soft systolic murmur over the entire precordium. The spleen was felt two centimeters below the left costal margin.

Laboratory studies showed the urine to be completely negative. Hemoglobin was 4.75 gm., with 1.55 million red cells and 8,100 white cells, with a normal white cell differential. Hematocrit was 12 per cent, with cell indices being M.C.V. 77.4 cubic microns, M.C.H.C. 39.1 per cent, M.C.H. 30.3 micromicrograms with a reticulocytosis of 12 per cent. The platelets appeared increased in number. A fragility test showed beginning hemolysis at 0.46 per cent with complete hemolysis at 0.40 per cent saline with a control not beginning until 0.44 per cent and completing at 0.32 per cent. An indirect and direct Coomb's test were negative. The icterus index was 10, with a serum bilirubin of 0.4 mg. per cent.

A diagnosis of congenital hemolytic anemia in crisis was made. The infant was immediately hydrated with glucose and saline solutions intravenously and was given a transfusion of 100 cc. whole blood on admission and on the following day. The hemoglobin rose to 11 gm. with 3.5 million red cells and hematocrit of 35 per cent. The spleen became smaller in size. When the infant maintained its counts at this level splenectomy was deferred until it was felt that conditions were optimal.

On the 12th hospital day a splenectomy was done. The infant received 125 cc. whole blood during the procedure which was tolerated well. On the first postoperative day the counts had risen to 14 gm. hemoglobin, with 5.4 million red cells. The platelet

count immediately after operation was 413,000 and rose to 900,000 within eight hours and was up to 1,000,000 the next day. No ill effects were noted from this, and on the second postoperative day the platelets began falling and by the fourth postoperative day had returned to 500,000. Following splenectomy the patient's blood showed increased resistance in hypotonic saline, as compared to a normal control on two occasions.

The infant was discharged on the 19th hospital day in excellent condition, weighing nine pounds, three ounces. Two months later she weighed twelve pounds, seven ounces. Blood counts at that time showed 11.5 gm. hemoglobin, with 4.85 million red cells and 13,800 white cells. The differential count was normal, and there were 0.8 per cent reticulocytes.

Pathology Report: The spleen weighed 30 gm. (normal for 5 weeks old infant is 13 gm.) and measured 7 x 5 x 2½ cm. The capsule was smooth. The cut surface showed prominent Malpighian bodies, and the tissue was dark red and firm. On microscopic examination the sinuses were enlarged and filled with erythrocytes. The endothelial cells lining the sinuses were very prominent. The Malpighian bodies were not abnormal. The pulp showed scattered green particles of pigment.

Comment: In congenital spherocytic hemolytic anemia there are probably several factors involved, but the exact role of each is still not entirely clear. Briefly, there is probably an inherited intrinsic red cell defect,[2] which may be due to an autohemolysin, plus a hyperirritability of the spleen,[1] so that exaggeration of a usual hyperhemolysis of the abnormal cell may occur at times to produce a crisis. Owren,[9] however, has presented evidence to suggest that the bone marrow undergoes episodes of temporary aplasia, with the abnormal red cell being destroyed more rapidly by a normally functioning spleen when the bone marrow is unable to meet the demand for increased cells in the peripheral circulation.

The occurrence of hemolytic anemia in infancy is rare, but when crisis occurs it is usually quite severe. Abt[10] recently reviewed the literature on the condition as it occurs in infancy and pointed out the essential clinical and laboratory data.

In cases of this type where the spleen is either over-active *per se* or only over-actively destroying an abnormal cell at rates greater than the marrow can supply them, splenectomy is almost always of marked benefit. The time for carrying out splenectomy in these cases has been somewhat obscure. It is felt by some that splenectomy should be done as soon as the diagnosis is made, without transfusions until after the spleen is out because of the feared danger of intravascular hemolysis and possible kidney damage. This may well be the treatment of choice where the operability of the patient at the time of admission is good. Others feel,[10,12] that transfusions should be given in order to get the patient in optimal operative condition, especially since many patients at this age have a severe crisis and may present a moribund state. In view of this infant's condition on admission, it was felt that it could not withstand anesthesia and operation. Therefore, this procedure was delayed until after transfusions had been given. The response to these was quite good, and the delay in this case no doubt helped decide the favorable outcome.

SUMMARY

Three cases showing hypersplenism in the pediatric age are presented. Two of these made complete recoveries following splenectomy, while the third died immediately.

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HEMOLYTIC ANEMIA FOLLOWING CAESAREAN SECTION TREATED BY SPLENECTOMY*

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and
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A careful review of the literature has failed to reveal a single case of an acute acquired hemolytic anemia which followed a Caesarean section, performed for a placenta praevia, which was treated successfully by splenectomy. Although acute acquired hemolytic anemia is not common, it occurs with sufficient frequency to be encountered sooner or later by most physicians in the course of an average practice. Virtually all textbooks of Surgery, medicine, pathology and hematology now include some discussion of this subject. In spite of an increasing interest, along with the consequent vast amount of literature, the condition is not as yet fully understood and its clinical management is not as yet standardized.

Case Report

Patient was a 34 year old white female, grava VI, para V, with previous pregnancies in 1942, 1944, 1945, 1946, and 1948.

First seen in the office on September 1, 1949, with history of a L.M.P. on December 25, 1948, and whose E.D.C. was October 2, 1949. All previous pregnancies, except the first in which the baby was born dead, had been normal, with short labors. Examination at first showed no apparent abnormalities. R.B.C. 3,870,000; Hb. 78 per cent; Rh positive; Wassermann, negative.

Admitted to Alexandria Hospital on September 11, 1949, with marked genital bleeding, without any contractions, which had begun that morning at 2:30 A.M. Bleeding ceased and she was allowed to leave the hospital on September 13, 1949.

Readmitted on September 27, 1949, at 4:15 A.M., with moderate bright red genital bleeding and again without contractions. Stat hemogram showed a Hb. of 6 gms. (40 per cent) with a hematocrit of 21. Patient Rh positive, group 0. Given 500 cc. of blood, followed by profuse bleeding. A second 500 cc. of blood was started and the operating room alerted. Examination there under anesthesia showed presence of a central placenta praevia, so an elective Caesarean section was performed with delivery of a normal 7 pound male infant. Patient received five additional pints of blood during and immediately following the operation.

The patient stood the operative procedure remarkably well with the B.P. and vital signs remaining stable throughout. Postoperative course was uneventful during the ensuing few days other than an elevation of the rectal temperature to 101 degrees on the first postoperative day. On October 4th the patient was given 500 cc. of blood as she appeared a bit wan and pale. Twelve hours following this transfusion it was noted that the urine was extremely dark in color and that the temperature was elevated to 101.6. Hb. was 33 per cent with five grams of hemoglobin. On October 6th temperature was still elevated, skin jaundiced, spleen palpable, urine dark in color. Hb. 26.5 per cent with a hematocrit of 11. R.B.C. Fragility test reported as normal with no evidence of spherocytosis on the smear. Given another transfusion and developed a marked reaction one hour after its completion. On October 7th Coomb's test was reported as negative. On October 8th hematocrit had dropped to 9, and reticulocyte count was 6.1. After thorough cross matching the patient was given a transfusion with one of the consulting hematologists as the donor. Developed a severe reaction after 150 cc. of the blood had been given. On October 9th had marked pallor, liver at level of iliac crest, spleen 4 cm. below the costal margin and the hematocrit was 10.

A splenectomy was performed on October 10th. After the pedicle had been clamped the patient was given fifteen hundred cc. of blood and experienced no reaction to the transfusions.

On October 11th hematocrit was 24 and, although it fluctuated up and down during the next three weeks, it still made a steadily upward course. As patient had improved so much, she was allowed to go home on November 1st, 1949, with a hematocrit of 33 and a Hb. of 66 per cent.

*Read before the annual meeting of the Medical Society of Virginia at Roanoke, October 8-11, 1950.

Since discharge from hospital patient has done very well in spite of the arduous housekeeping duties associated with a household of five small children on a limited income. Repeated checks of the hematocrit and hemoglobin have been performed and have been considered to be satisfactory with no evidence of any continued hemolysis. A complete blood study performed on September 20, 1950, showed the following: Hemoglobin 76 per cent with 11.5 grams; hematocrit 36; blood platelets 220,000; Coomb's negative; no evidence of any spherocytosis in the blood smear.

DISCUSSION

An extensive discussion of the theories of pathogenesis, and mechanism of hemolysis in hemolytic anemias is, of necessity, beyond the scope of this clinical report.

After you have eliminated the possibility of a hemolytic anemia being inherited, or secondary to some recognizable cause, there still remains a group of persons in whom anemia is obviously due to abnormal destruction of red blood cells. In some of these cases, endogenous hemolysins in high titer have been demonstrated in the patient's blood. It is not altogether clear whether isohemolysins are the sole cause of anemia in these patients, or whether these hemolysins are generated by an initial hemolytic episode and merely serve to augment and continue the process.

Some cases of acquired hemolytic anemia manifest themselves with a history of infection, usually a respiratory type infection, a week or ten days prior to the development of the acute symptoms. Many writers have assumed the hemolytic anemia to be the result of the infection, but no etiological agent has as yet been established. In many cases no diligent or thorough search for the serum hemolysins has been made.

Boorman and his coworkers in 1946 demonstrated the existence of adsorbed antibodies not belonging to the Rh-Hr system in cases of acquired hemolytic anemia. By means of a co-called Coomb's or developing test two different types of spherocytes could be distinguished: (1) the uncoated spherocyte usually found in hereditary hemolytic anemia, and (2) the globulin coated spherocyte present in the acquired disease. The developing test should become a necessary requirement in diagnosing hemolytic syndromes. If positive, the hemolytic anemia should be designated as being of the immunologic type. Such an immunologic type may even be found superimposed on hereditary spherocytosis.

Cause of hemolysis is not definitely known. One school believes that the spleen is site of the origin of an antigen and that the whole process is an example of an immune body mechanism similar to mismatched transfusions; the other school feels that the enlarged spleen simply has a greater area in which to perform its usual "graveyard functions." It is therefore entirely possible that the mechanism of causing rapid destruction of red blood cells is associated with sensitization in the reticulo-endothelial system.

The spleen is occasionally more of a hindrance than a help, and certain forms of disordered splenic function are revealed by the accelerated destruction of red blood cells, or by a pathological influence on blood cell formation. The beneficial and often curative effect of splenectomy in a significant number of cases is ample proof that the spleen is the principal offender; the means by which the organ does harm is not so well understood. The term *hypersplenism* is recommended to cover this particular group of splenic disorders, which are based on harmful or excessive splenic function. Hypersplenism limited to red blood cells is exemplified by familial hemolytic jaundice, where splenectomy nearly always effects a clinical cure. In the less specific forms of acquired hemolytic anemia there is a lower incidence of clinical cure indicating that the spleen is less often the site of the disturbance.

When patient continues to have hemolysis after several transfusions, it is the consensus of opinion that splenectomy should be performed and that one should not wait too long before resorting to this procedure. There is a tendency among some medical men to feel that the patient will not withstand the operation, but it should be recognized that without splenectomy the outcome is, or may be, hopeless.

It is readily acknowledged that each case must be treated individually and the old aphorism is still true—the exception proves the rule—that every case may not show the accepted or pathognomonic findings.

It is entirely within the realm of possibility that two or more entirely different factors or causes may have been present in this case.

Development of increasingly more severe reactions

after repeated transfusions might suggest some isoimmunization either with agglutinins or hemolysins, though none could be demonstrated. Transfused normal cells become involved in the hemolytic process and are eliminated from the circulation at an accelerated rate and may well have occurred in this particular case.

Bone marrow biopsy is of negative value in an acute hemolytic anemia as it shows only a normoblastic hyperplasia and in that way rules out other types of blood disorders.

Hydrogen ion concentration of the serum is thought to have an influence on the hemolytic system, with hemolysis within certain ranges found to be more frequent.

In this case a thorough search for the cause of the sudden onset of, and continued hemolysis was made without success. Careful and close check of the blood to be transfused, as well as the serum of the patient, to rule out the possibility of some incompatibility was also performed without success.

To all intents and purposes the condition which this patient experienced was like a "bolt out of the blue," and was that of an acute acquired idiopathic hemolytic anemia. The cause of the hemolysis was never determined and at no time could be attributed to any drug, toxic substance or metabolic disturbance, although the possibility of one or more of these factors being the cause remains quite likely.

The decision to perform the splenectomy was made after thorough hematologic study had failed to reveal the cause of the hemolysis and when the condition of the patient was steadily becoming more critical hour by hour. The results of the operation were most satisfying, and tend to bear out the thoughts of so many men who recommend a splenectomy in cases of acquired hemolytic anemia in which the patient fails to respond to repeated transfusions, and this decision should be made before the condition of the patient becomes too critical for such an operation.

The follow-up on this patient as mentioned in the Case Report has shown a return of the hematocrit and hemoglobin to acceptable levels and there has been no evidence of any repeated hemolysis since the patient's discharge from the hospital almost one year ago.

Summary

We have presented the case of a multiparous young white female who, following a Caesarean section for placenta praevia, developed an acute acquired idiopathic hemolytic anemia. The etiology of the anemia was never determined, in spite of an extensive hematological workup. Splenectomy was performed after the patient continued to show hemolysis and continued to go down hill, in spite of repeated transfusions together with extensive symptomatic and supportive therapy. Patient made a very satisfactory recovery from the operation and has not shown any hemolysis since her discharge from the hospital.

In addition, we have discussed some of the more current ideas as to the cause of acquired hemolytic anemias and have presented the thought that splenectomy should always be kept in mind in case the patient does not respond to repeated transfusions and conservative management. The decision to perform splenectomy should be made before the condition of the patient becomes so critical that the operation would not be practical.

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DISCUSSION

DR. HERBERT H. SCHOENFELD, Washington, D. C.: Acute anemias are frequently spectacular in their picture as well as dramatic in their relief.

Heroic surgery, when indicated, as in the report of Dr. Delaney, is certainly to be commended.

It is my judgment that, with the still present moot of splenic physiology, we should be more frequently radical in our treatment of hemolytic anemias, regardless of cause, even when such cause is undetermined, unless a quick reverse of the pathological progress of hemolysis is attained by other therapy.

Certainly, in a patient whose hemolytic process is progressive, and in whom no adequate cause can be determined, and in whom palpable splenomegaly and hepatomegaly occurs, we should grasp the only real definite treatment which might avail.

It is to be noted also that apparent splenomegaly may not be present in all cases.

DR. C. L. RILEY, Winchester: The speaker is to be congratulated upon the presentation of a very interesting paper, and the splendid results obtained. More and more attention is being given to blood dyscrasias associated with pregnancy, particularly those in which splenectomy is indicated. The importance of the proper timing of operation in puerpera hemorrhagica, hemolytic anemias, etc., should be emphasized in that acute exacerbations do arise during the puerperium and death has occurred from uncontrollable hemorrhages during this period.

A patient near term was recently seen with puerpera hemorrhagica in which a precipitous fall in platelet count occurred and hemorrhagic tendencies developed so rapidly that active treatment was considered imperative. Splenectomy and cesarean section (the former by Dr. L. W. Woodward, Woodstock, Va.) were done simultaneously with gratifying results.

The author's case represents one of the few of an acquired hemolytic anemia during or following pregnancy that has been reported and illustrates well the necessity for prompt and adequate therapy.

TREATMENT OF EPILEPSY—A STUDY OF ELEVEN CONSECUTIVE CASES*

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Rapid and revolutionary advances have been made in the study and treatment of epilepsy during the past few years. As a result it is apparent that nearly all patients who are capable of carrying out proper instructions can live without seizures. Indeed, for the past eighteen months the writer has been assuring nearly every patient with epilepsy that his seizures can be stopped. Such assurance has tremendous therapeutic value. Of course, this assurance is given only after many hours of studying the patient and after ruling out any appreciable possibility of a progressive intracranial lesion.

The writer believes a report of his more recent experiences in the study and treatment of epileptics may be of value to other practitioners. He offers 11 consecutive case studies.

Case 1: White male, age 30. When first seen in August, 1948, this patient was having grand mal seizures about five times a month, usually with aura, and petit mal attacks six or seven times a day. Two or three times a month he was having psychomotor attacks consisting of about ½ hour of amnesia, usually with running fits. He then was taking regularly mesantoin gr. 1-½, t.i.d. He previously had done no better on dilantin gr. 1-½, t.i.d., with phenobarbital gr. ½, t.i.d. He was unemployed and unemployable, and discouraged by his parents from attempts at employment lest he lose his pension. He spent his time brooding over bitter childhood experiences and bitter war experiences. Seizures developed in 1946, two years after hospital treatment for filariasis.

The only positive physical or neurological findings were absence of swing of right arm and a vague drag of right foot evidenced only by comparison of his shoe soles. Electroencephalogram in January, 1948, showed only normal variation.

At the first appointment he was given a two-hour interview of study and psychotherapy. This was followed during the next few weeks by many one-hour conferences. Much attention was given to ameliorating his disturbing emotions, improving the home atmosphere, getting him to seek the fellowship of others, and helping him to work out ways of replacing the time spent in bitterness with all types of activities suitable to an epileptic. At the end of the intensive study he was given absolute assurance that with his cooperation his seizures could be stopped by proper combinations of the drugs now available, used in adequate doses. He was told that the doses would be increased gradually and that perhaps they would make him temporarily sick; but if one drug or group of drugs made him sick, there was a great variety of others which would not. He was instructed to telephone at once for an appointment if a rash, sore gums, dizziness, indigestion, or any new complaints of any kind developed, even if it seemed to be no more than a "fresh cold", as the possibility of its being caused by one of the drugs must be ascertained at once. In order to avoid errors of overcaution in medication, patient was instructed that if it seemed necessary to see another physician or dentist, such consultation should be arranged by the physician treating his major condition, epilepsy. He was instructed to telephone promptly if another seizure occurred. He was instructed to clean his teeth gently after every meal and at bedtime.

Patient was told that doctors have produced seizures for diagnostic purposes by having a patient drink excessive amounts of fluid after a dose of pitressin. He was instructed to drink the least amount of fluids consistent with comfort, never a tumbler full if a tumbler half full would quench his thirst.

Patient was told that doctors also have produced seizures for diagnostic purposes by having a patient breathe excessively for a few minutes. He was reminded that anger, bitterness, fear, worry, and kindred emotional brain storms produce such excessive breathing, and was told that in the writer's opinion this over-ventilation is of major importance in bringing on each seizure. He was urged, therefore, to use every possible means of preventing such brain storms and to "put on his thinking cap" in order to work out better past-times. He also was instructed that if or when he ever should find himself in a

*Read before the Seaboard Medical Association of Virginia and North Carolina, December 6, 1949.

tense emotional state, he was at once to start breathing very slowly and to take in the least amount of air compatible with comfort. He was told that this often would prevent the occurrence of seizures, and it also would reduce greatly the emotional tenseness itself.

Patient was instructed to eat a small snack between meals and a dry snack at bedtime as, in the writer's experience, this reduces tendencies to emotional tenseness and to seizures of all types.

Patient was instructed never to exert himself physically more than 10 per cent beyond his usual activities because such over-exertion sometimes brings on seizures. He was advised, however, to increase gradually his physical activities because habitual physical activity seems to reduce the tendency to seizures.

Patient was advised and urged to start making plans for life employment in some occupation considered safe for an epileptic.

Medication was changed to mesantoin gr. 1-½, b.i.d., dilantin gr. 1-½, b.i.d., and phenobarbital gr. 1-½ at bedtime.

The grand mal seizures ceased, and the petit mal and psychomotor attacks became very infrequent and mild. He applied for a course of training under the Veterans Administration Rehabilitation Program, and the anticipation of this further improved the patient.

There followed many months of waiting for the course to be started until patient grew so impatient that he impulsively made a trip to Washington hoping to induce his senator to get him back into the army despite his epileptic history. He was disappointed and embittered over not being permitted to see the senator, and had three grand mal seizures during the following 48 hours. This episode occurred in January, 1949.

Medication was increased to dilantin gr. 1-½, t.i.d., mesantoin gr. 1-½, t.i.d., and phenobarbital gr. 1-½ at bedtime. About three weeks later he was started on his course in radio repair work which he has continued regularly and zealously. He has made good grades and has been very happy and well adjusted in every way. Since January 16, 1949, eleven months ago, there have been no grand mal or petit mal seizures, no psychomotor attacks, and no physical or nervous complaints of any kind.

Case 2: Colored male, age 33. When first seen February 2, 1949, patient was having grand mal seizures, usually twice a month, and usually with dislocation of his jaw. He had had seizures for eight years. He had been entirely unemployed for 1-½ years, and was unemployable, very tense, and very unhappy. He had had syphilis, possibly congenital, and this may have been a major factor in his epilepsy. About the time of onset of seizures he was having bilateral keratitis which left him with corrected vision in his best eye of 20/100. When first seen, repeated blood serology had been negative for syphilis for six years. A spinal fluid was obtained and found negative. Physical and neurological examinations were negative for any evidence or residuals of syphilis other than the damaged eyes.

Patient was given the same long and thorough study as was given to *Case 1,* the same psychotherapy, the same assurance that seizures could and would be stopped, the same extensive instructions including those referable to possible factors that might cause or that might prevent seizures. He was given dilantin gr. 1-½, t.i.d., with phenobarbital gr. 1-½, at bedtime. In April, two months after starting treatment, while attending very exciting religious services, he had two seizures within 24 hours. He had one seizure in June because of the same excitement. On each of these two occasions his daily dilantin was increased gr. 1-½. Since June he has been taking 7-½ gr. dilantin a day and phenobarbital gr. 1-½, at bedtime. On this medication for six months there have been no further seizures and no physical complaints of any kind other than the defective vision mentioned above. Since September 15, he has been employed regularly at suitable work.

Case 3: Colored female, age 25. When first seen, July 7, 1949, patient was having grand mal seizures once or twice a month, often with minor injuries. She was unemployed and unemployable, dependent upon relatives, quarrelsome, tense, and unhappy. Her childhood had been made unhappy by a brutal father. Onset was at the age of 13 years, one month after a fall which raised a bump on her head but did not produce unconsciousness nor sequelae. A brother who died, age 16, had had seizures following a head injury. Her mother emphasized the fact that ever since early childhood patient had been sensitive, bashful, and withdrawn.

Patient was given the same thorough study, psychotherapy, and instructions, and assurance as were

Cases 1 and *2*. Treatment included dilantin gr. 1-½, t.i.d., with phenobarbital gr. 1-½, at bedtime. There occurred a rash and high fever, believed due to dilantin. Medication was changed slowly to phenobarbital gr. 3, at bedtime, and gr. ½, b.i.d.

There have been no further seizures, nor other symptoms of epilepsy during the five months since the beginning of treatment. Patient is working half-time, is practically self-supporting, and appears very happy.

Case 4: White girl, age 13. When first seen, May 2, 1949, patient was in status epilepticus and was wearing a "Statue of Liberty" cast for fracture of the left humerus. There had been 10 seizures within a few hours, but seizures promptly subsided after liberal doses of phenobarbital. Prior to status epilepticus she had been having a seizure about every two days. Patient also had had psychomotor attacks and petit mal attacks. Onset was at age two. There had been maladjustment throughout her life.

Patient had been studied and treated several times at a medical college hospital and her seizures stopped; but each time parents would discontinue medicines and seizures would return.

Physical and neurological examinations were negative except for: the fracture, a small shiny raised body lateral to the disc of right eye (not believed etiologically significant), and a rash said to be present since tridione was discontinued three months previously. X-ray showed non-union of the fracture. Intelligence is subnormal, I.Q. being 60.

Treatment included the same thorough study and psychotherapy as were given to *Case 1*. The same instructions and assurance were given to the child and to the parents. Because of the fracture, cessation of seizures seemed imperative; and she was at once put on dilantin gr. 1-½, four times a day and phenobarbital gr. 1-½, at bedtime. Five months later gums became swollen, and dilantin was reduced to gr. 1-½, t.i.d.

There have been no further grand mal seizures since patient was first seen. There have been periods of mental dullness, lasting a few hours, which may have been psychomotor attacks, but more likely were periods of schizoid behavior. It was learned that she was being teased and tormented by schoolmates. This was stopped by sending her to another school. Since then the dull periods have ceased and her school work has improved.

Case 5: White female, age 25. When first seen August 2, 1949, patient was in status epilepticus which promptly subsided on liberal doses of phenobarbital. Although taking dilantin gr. 1-½, four times a day she had been having about eight grand mal seizures a month and also some petit mal and psychomotor attacks. She had been having seizures since seven months of age and had spent two periods of about two months each in a state hospital. Aura consisted of stomach pain and nervousness. An aunt and a cousin were epileptic. Because of seizures and because of patient's unpredictable temperament, it was considered necessary for her mother-in-law to run the home, a situation which patient bitterly resented.

Treatment included the same thorough study, psychotherapy, instructions, and assurance described above; and a slow change in medication to dilantin gr. 1-½, t.i.d., mesantoin gr. 1-½, t.i.d., and phenobarbital gr. 1-½ at bedtime.

During the four months since first seen there have been three attacks of petit mal and two grand mal seizures. The first grand mal seizure occurred while patient's aged father-in-law had pneumonia and patient was tensely over-working. The second seizure occurred November 14, 1949, following changes in medication while she had an infection of mouth that was growing progressively worse. She now is taking dilantin gr. 1-½, t.i.d., mesantoin gr. 1-½, four times a day, phenobarbital gr. 2 at bedtime, and gr. ½, b.i.d. During the four months she has grown fairly happy in her outlook, has run her home fairly well for 1-½ months in the absence of her mother-in-law, and seems free of any direct effects of her epilepsy. However, it must be admitted that she shows considerable evidence of a schizoid personality that is made more manifest by her experiences as an epileptic. This evidence consists of childish quarrelsomeness, irritability, and undue sensitiveness resulting in shut-in habits.

Case 6: White girl, age 8. When first seen, April, 1947, patient was having 6 to 12 petit mal attacks a day, onset being five months previous. The pattern fitted that described as pyknolepsy. The attacks lasted only a few seconds and never resulted in a fall. Mother was very religious, strict, and of a rigid personality. Patient was thin and of "race horse" habitus and habits, in which she resembled her father.

Treatment included the same thorough study, psychotherapy, and the same instructions and assurance to patient and her family described above. Special emphasis was placed upon frequent feedings, as children of her "race horse" build seem prone to a relative hypoglycemia with resulting symptoms. Tridione was started and attacks became infrequent. It later was increased to gr. 5, four times a day. Within another two months all of the attacks ceased and there has been no return, although the tridione was withdrawn slowly over a period of four months.

Case 7: White male, age 23. When first seen April, 1949, patient was having a grand mal seizure every few months usually so severe as to necessitate his losing two days from work. Onset was four years ago. Aura consisted of a feeling of tenseness and a numbness over right half of face. Often he would stay home from work because of tenseness and fear of a seizure, his occupation being hazardous for an epileptic. All seizures occurred at times of emotional stress or following unusual physical fatigue. Patient states his first two seizures occurred two weeks after a fall in 1945, while in military service. Six months later there was a craniotomy. Examination showed right arm smaller and weaker than the left, and a narrowing of field of vision of right eye. Possibly these defects dated from a birth injury he is known to have had. EEG made in June 1949, was "suggestive of epilepsy".

Treatment included the same thorough study, psychotherapy, instructions, and assurance described above, successful efforts in getting patient to secure safe employment, and a change in medication from dilantin gr. 1-½, t.i.d., with phenobarbital gr. 1-½, at bedtime, to dilantin gr. 1-½, and mesantoin gr. 1-½, each b.i.d., with phenobarbital gr. 1-½ at bedtime.

During the eight months of treatment there have been no further seizures and no auras.

Case 8: Colored male, age 23. This atypical or questionable case, when first seen in March, 1948, carried a diagnosis of idiopathic epilepsy. Patient's spells consisted of syncope following emotional upsets or following over-exertion. These spells were followed by headache and weakness which, prior to treatment, resulted in the loss of much time from his work as a college student. His build is thin, the "race horse" type. He always carries marked physical evidence of a stimulated sympathetic nervous system. In the past he had been found to have a flat glucose tolerance curve and fasting blood sugar as low as 40. Numerous studies including three EEG's during the past three years have left it questionable whether this is a true case of epilepsy.

Treatment has included much psychotherapy. Medication prescribed was dilantin gr. 1-½, t.i.d., with phenobarbital gr. 1-½ at bedtime. Treatment has decreased the evidence of nervous tension only slightly, and somewhat reduced the number of spells. However, the spells are much milder and rarely keep him from work; and the quality of his college work has definitely improved. This is perhaps a case of anxiety neurosis with functional hypoglycemia resulting in attacks of syncope.

Case 9: Colored female, age 45. When first seen in August, 1948, patient was in status epilepticus which promptly subsided following the administration of adequate phenobarbital. Since age five she had had frequent grand mal seizures and psychomotor attacks. She was given psychotherapy and started on dilantin gr. 1-½ in the morning and gr. 3 at bedtime. Except for one period in March, 1949, when she ceased taking her medicine, there have been no further seizures.

Case 10: White female, age 28. When first seen January, 1948, patient was having as many as four seizures a month. She was given psychotherapy and started on dilantin gr. 1-½, b.i.d., with phenobarbital gr. 1 at bedtime. She improved, but has had a seizure every few months. Upon each of these occasions the seizure was preceded by an emotional upset with resulting failure to take medicine.

Case 11: White female, age 40. When first seen 12-22-48, patient was in a hospital, confused, and exhibiting bizarre, senseless, excited behavior which the referring physician called hysteria but which the writer considered to be a psychomotor attack. For four years she had had frequent similar attacks, some of them with possible grand mal, usually lasting a few hours to a few days. Many of these spells were preceded by alcoholism. All were preceded by some occasion of an emotional upset.

Early history included desertion by father in early childhood and the death of her mother when patient was age 19. She was too nervous to work the following year. She retains bitterness toward her sister referable to occurrences preceding her mother's death.

Physical examination was essentially negative except for hirsutism.

Electroencephalogram showed dysrhythmic record consistent with epilepsy, suggestive of psychomotor pattern in right occiput. X-ray of the skull was negative.

Treatment included psychotherapy. Medication was soon built up to dilantin gr. 1-½, four times a day, with phenobarbital gr. 1-½ at bedtime. Following her third spell after initiation of treatment, medication was finally changed to dilantin gr. 1-½, t.i.d., mesantoin gr. 1-1½, b.i.d., and phenobarbital gr. 1-½, at bedtime. She was questioned closely following each of these three spells, and it was learned that each was preceded by the occasion of an emotional upset. Each was judged to be a psychomotor seizure and of the type that many doctors call "hysteria". Since the spell and change in medication, 4-15-50, there has been only one spell. This one followed the illness and death of a member of her family at which time she had neglected her medication. All of these four spells were relatively mild and brief, and did not require hospitalization as did many of the former ones.

From experience and from a review of the more recent reports, certain conclusions are presented:

The most effective drugs for grand mal seizures are phenobarbital and dilantin. Dilantin also often decreases psychomotor attacks. When seizures cannot be controlled satisfactorily by dilantin and phenobarbital, they often can be by adding mesantoin. With either dilantin or mesantoin much better results can be obtained if a bedtime dose of phenobarbital gr. 1-½, is given. The writer nearly always does this, but rarely gives phenobarbital in the daytime as the resulting drowsiness discourages the patient. Still better results often can be obtained if all three of these drugs are given.

A very common error in medication is inadequate dosage. The amount necessary of dilantin and of mesantoin often reaches the toxic level. Time will not be taken here to review the numerous toxic effects of these drugs; but doctors cannot properly treat epilepsy without giving their patients an understanding of the drugs used and their toxic effects. Frequent interviews are necessary.

In starting dilantin or mesantoin, safety demands that the dose be built up gradually. Mesantoin is started at one dose a day of gr. 1-½; dilantin at two such doses. If seizures persist, an additional daily dose is added every few days. If three or four such doses a day of either drug does not give satisfactory results, the writer usually starts the other drug also, slowly building up the dose. Each case must be individualized. The writer is giving many of his patients the following combination: dilantin gr. 1-½, t.i.d., mesantoin gr. 1-½, t.i.d., and phenobarbital gr. 1-½ at bedtime.

The above drugs seldom have beneficial effect upon petit mal. This can be controlled and often stopped by tridione in adequate doses. It has produced fatal blood dyscrasia and often has other toxic results, especially in adults, and more especially in those who have reached middle life. It should not be given to arteriosclerotics for spells resembling petit mal. In children and in younger adults with both petit mal and grand mal it usually is satisfactory to combine tridione with dilantin and bedtime phenobarbital. A high portion of the reported cases of agranulocytosis occurred while patients were taking both tridione and mesantoin.

There are other promising drugs. Meboral, a barbituate, appears to produce less depression of intellectual functions than phenobarbital. Thiantoin sodium (phethenylate sodium) has been offered as being more effective in proportion to its toxicity than dilantin or mesantoin. Similarly, paradione has been offered as a substitute for tridione. Dextro-amphetamine (dexedrine) has been used to counteract the sedative effects of phenobarbital and other drugs. It is helpful for petit mal and psychomotor attacks and for behavior disorders even when apparently not the result of epilepsy.

The writer's experience has confirmed his deduction that seizures sometimes can be prevented by slow breathing. Therefore, he carefully explains to each patient that over-ventilation, incident to emotional upsets, can cause seizures and should be avoided by slow breathing. He also explains the importance of drinking no more fluid than is necessary for comfort. His only routine instruction as to diet is that excess hunger must be carefully avoided by eating a snack between meals and at bedtime, although he can offer no precedent for routinely doing this. However, some workers report that hypoglycemia can produce seizures of both grand mal and petit mal types; other workers say that it sometimes enters into the mechanisms of the production of the physical complaints produced by anxiety reactions and by a great

variety of psychosomatic diseases. The writer's experience confirms this.

Many workers emphasize the importance of emotional upsets in producing the individual seizures. When a patient is taking regularly substantial doses of suitable drugs but still is having occasional seizures, the writer has observed that on practically every occasion the precipitating cause is an emotional upset, and that this upset is nearly always of a type which the patient can be taught to prevent, or at least to soften.

From experience the writer is convinced that fear of seizures is a major cause of seizures, and in the great majority of cases he assures the patient that if all directions are followed, his seizures will stop—thus taking a well calculated and relatively insignificant risk to his reputation.

Long experience in carefully taking histories has led the writer to question the conventional view that epilepsy is primarily genetic rather than environmental. Of course, a constitutional diathesis, that is, a genetically determined low threshold for seizures does exist. The high incidence of EEG dysrhythmia in relatives of epileptics (60 per cent) is considered proof that epilepsy is genetically determined. However, no studies appear available to prove that life experiences and environment (an unhappy or a tense home) do not similarly influence the EEG rhythm. We do not know why only one out of twenty people with dysrhythmia have seizures. We do not know as yet whether a genetic tendency and an unhappy tense environment are both necessary to produce epilepsy in the absence of intracranial lesions. Neither do we know whether the mechanism of producing seizures involves psychic over-production or psychic under-production of some endocrine or hormone, perhaps as yet unknown or inadequately studied.

In the present state of our ignorance and groping, the writer takes a careful history of all emotional factors likely to produce the epileptic constitution or likely to cause the individual seizure. The present environment is reviewed including the whole family, and the patient's school or his employment. Changes are attempted whenever indicated and practical. The patient's habits are studied especially, and improvement in mental hygiene is attempted. If patient is unemployed, he is induced to make plans for early employment. Attempts are made to lessen emotional reactions by psychotherapy. All of this is done as early as possible. In general, the writer includes in his treatment of epileptics all of the psychotherapeutic measures he uses for neurotics, and for patients with psychosomatic diseases.

It is the writer's opinion, based upon his experience, that if every available means is used consistently, nearly all epileptics can live without seizures. To this end, the writer wishes to emphasize the fact that all eleven of these consecutive cases now (Nov. 25, 1949) are adjusting as normal individuals, all living purposefully as industrial workers, as students, or as satisfactory housewives.

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Clinton Apts., West Ave. and 33rd Street.

ACTH Helps Severely Burned Children.

Further evidence that ACTH is a valuable aid in the treatment of severely burned persons was reported by four Minneapolis doctors in the May 5th *Journal of the American Medical Association.*

Drs. Forrest H. Adams, Eldon Berglund, Samuel G. Balkin and Tague Chisholm, who administered the drug to three severely burned children, reported that there was a decrease in the fever, an increase in appetite and an improvement in the emotional status of the children. They received the hormone for five, 30 and 100 days respectively. The doctors are associated with the University of Minnesota Medical School and the Minnesota General Hospital.

The doctors explained that fever, lack of appetite, irritability and emotional instability, so often present in severely burned persons, pose many problems to the attending physician. For example, loss of appetite—probably related to the fever—and the loss of body fluids and proteins from the burned area might produce a state of malnutrition, making skin graft difficult. The use of ACTH in severely burned patients is, "a rational form of treatment justifying further investigation."

CLINICOPATHOLOGICAL REPORTS

From the Case Records of the Medical College of Virginia and the University of Virginia Hospitals.

HARRY WALKER, M.D., *Editor*
WILLIAM KAY, M.D., *Associate Editor*

CASE NO.: 54

The patient, a 67 year old, white, retired railroad worker, was admitted to the hospital on January 1, 1950, complaining of "pain in the stomach and headache." He had been in good health until about two months prior to admission when he had the "flu". Since then he felt weak and rundown. For about a week to ten days prior to admission he had occasional vague abdominal pains, which he located to the right of his umbilicus. The pains were dull in nature and usually occurred at night. Lying down would usually relieve the pain. Vomiting occurred twice during the past month; no blood was seen. He was able to tolerate all foods and was unable to give any reason for the abdominal pain. There has been no change in bowel habit, color of his stools, and no chills or fever. One week before admission he began to have headache which was located in the frontal and occipital areas. It was dull and brought on or aggravated by stooping or moving his head quickly, and not relieved by aspirin. About five days before admission he noticed that his urine was becoming darker. There had been a weight loss of 10 or 15 pounds in the past two months.

The past, family, and marital histories were not remarkable. The review of systems were essentially negative. The patient had had all of his teeth extracted nine months ago. For many year there had been nocturia twice each night. He was a heavy smoker, but drank alcohol only in moderation.

Physical Examination: Temperature 100°F. rectally, respirations 24, pulse 94, blood pressure 100/-65. The patient was a well developed and well nourished male in no apparent distress. He was alert and oriented. The skin over the face was described as ruddy and icteric. The sclerae were also jaundiced. The left pupil was larger than the right and oval in shape. There was a perforation of the right ear drum which appeared to be old. The tongue was negative. The thyroid was not palpable. The thorax was increased in AP diameter, but was symmetrical. The lungs were clear to percussion and auscultation. The heart size was difficult to evaluate because of the large chest. The heart sounds were distant, no murmurs were heard, and the rhythm was regular. The liver was enlarged 2 finger breadths below the costal margin; it was hard and non-tender. There was some moderate tenderness deep in the right upper quadrant, but no masses were felt. The spleen was not felt. No other masses were felt or tenderness noted in the abdomen. The prostate was slightly enlarged. It was smooth and non-tender. The extremities were negative. The reflexes were equal and active.

Laboratory studies on admission: Urine was amber, cloudy, specific gravity 1.020, there was 1+ albumin, 1+ sugar, no acetone but positive for bile. There were 1-2 red cells and 2-4 white cells per h.p.f. The hemoglobin was 10.8 grams with 4,900,-000 red cells, and 13,000 white cells. There were 80% polys., 17% lymphs., and 3% eosinophils. The serology was negative. Cephalin flocculation 4+, total proteins 7.3 with 2.5 albumin and 4.8 globulin, serum bilirubin direct 2.7, mgs. total 4.0 mgs. The BSP was 36.8%. Serum amylase was 19 units; repeated blood cultures were negative. One stool examination showed no amoeba.

The patient became progressively more jaundiced and ran a spiking type temperature ranging from normal to 102°F. Repeat liver function test one week after admission showed a cephalin flocculation of 4+, 7.0 total proteins, 2.5 albumin and 4.5 globulin. The serum bilirubin direct was 2.8 mgs.% and total was 4.0 mgs.%. BSP was 36.8%. Examination of the stool was positive for urobilin. Blood cultures continued to be negative. A gastro-intestinal series was not remarkable except for a duodenal diverticulum. The patient continued to complain of weakness and vague upper abdominal discomfort.

An exploratory laparotomy was performed and the liver was found to be enlarged three finger breadths below the right costal margin. The margins of the liver were rounded and the organ was slate gray in color. The surface was irregular due to numerous

nodules. A biopsy taken from one of the larger nodules showed "hepatitis and fibrosis" of the liver substance. The gall bladder appeared to be of normal size and consistency, and no stones could be palpated in the gall bladder or common duct. The remainder of the upper abdomen appeared normal. A small T tube was inserted in the common duct; a cigarette drain was left in the wound.

Following the operation the patient seemed to improve, the wound drained bile freely, his temperature became lower and his general condition appeared better. One week following the operation the drain was removed and ascitic fluid seeped from the wound. During this time the patient was afebrile. He later began to gradually become progessively weaker. He was put on a high protein, high caloric diet which he tolerated well. His hemoglobin at this time was 10.8 gms. with 4,200,000 red cells and 15,000 white cells. The NPN was 42 mgs.%, the serum bilirubin direct was 5.4 mgm., a total of 8.4 mgm.%. Cephalin flocculation was 2+. Total protein was 7.5 with 2.4 grams of albumin, 5.1 of globulin. On the 11the post-operative day the patient began running a low-grade fever which continued in spite of antibiotics. The jaundice became progressively worse, the serum bilirubin on the 14th post-operative day was 15.4 mgm.% direct and 22.4 mgm.% total bilirubin. Cephalin flocculation was 1+ and stools were negative for urobilinogen. His temperature began rising and was again septic in nature. The patient became increasingly weaker and became confused and disoriented. The fluid output remained very good but he became more and more drowsy. His wound drained small amounts of bile stained material. The liver edge remained palpable about three finger breadths below the costal margin. The patient became comatose and finally died on the 14th of February, his 30th post-operative day.

Treatment during the entire hospital stay was supportive and symptomatic. Following the operation he was given crysticillin, a protein digest to take by mouth and methionine, 0.2 grams, twice daily, He was also given intramuscular crude liver extract, I. V. glucose and several whole blood transfusions.

Discussion by Dr. Charles M. Caravati*

This is a 67 year old, white male, who was a railroad worker, who was well until about two months prior to his admission to the hospital, at which time he began to have malaise, or something akin to it, which was described as a possible "flu". Ten days before admission, this patient developed abdominal pains of a rather unusually and bizarre type, which were localized around the umbilicus to the right and which, interestingly enough, disappeared or improved upon reclining. One of the important points about abdominal pain is how it is relieved. In this patient the pain was relieved when lying down which would suggest that the pain may have been previously due to traction on some organ or some mechanical factor, rather than due to any of the usual causes of abdominal pain. I gather that the pain was not too significant—it wasn't too bad, its intensity was not great. A few days later the patient developed a headache of an occipital and frontal type—again the pattern is difficult to make much of; and at the same time, he probably had fever, so one questions the fact whether the headache was significant. Five days before admission, he had dark urine. During this time of two months, he had lost approximately 10 to 15 pounds in weight. His past and his family history and his personal history were not significant and his symptoms review revealed nothing that helps us. He had had a tooth extracted 9 months before. He had had nocturia twice a night for a number of years. His physical examination showed an enlarged prostate without nodules, so that may be the explanation of his nocturia. Relative to his personal habits, it may be significant to note that he drank moderately, whatever that may be, and also smoked heavily.

On physical examination when he came into the hospital, he had a temperature of 100.8°F., and he appeared to be not too sick—he was well developed and well nourished. He had a definite icterus. His left pupil was larger than his right pupil, and it was oval in shape. Whether that is significant or not, I do not know. We are given no other information; one begins to think, of course, of some lesion that may disturb the constriction of the pupil, but we are not told anything about accommodation or about the reaction to light. Therefore, it seems we cannot do anything but discard it because we do not know whether it was just an inequality of pupils or not. He had a perforated ear drum. His chest was essentially negative. His liver was enlarged two finger breadths below the costal margin—it was

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hard, it was irregular and it was non-tender. There was some tenderness below the liver deep in the right upper quadrant. This was not particularly pronounced, but I think it was important because it was localized. There were no other findings in his abdomen of any consequence; his spleen was not palpable. I have already mentioned that his prostate was slightly enlarged.

His course was an interesting one. From the beginning, he manifested a febrile course of a spiking type. The temperature would go down to normal and then spike as high as 102.0°F. This continued until he was operated on. At the same time he had jaundice which was fairly stationary at the beginning but later deepened. Associated with the jaundice were the symptoms of weakness and vague upper abdominal distress. At that time he was x-rayed. The x-ray is of little help because it is negative. We can discard it by saying that the upper alimentary tract is essentially negative for organic pathology from a roentgen viewpoint.

In view of the fact that this man's course continued poor, it was decided to do a laparotomy. I do not know why they thought a laparotomy might be helpful, but I suspect that with the presence of a spiking fever and an enlarged liver, the clinicians felt that the bet was that this patient had a liver abscess. However, they may have been thinking of suppurative cholangiolitis associated with obstruction of the common duct. It would appear, however, that they did not try hard to find out about the presence of cholangiolitis as one gathers later from the laboratory studies and from the study of the stools, so I am not particularly convinced that they were concerned too much about that diagnosis.

It seems to me that they began to wonder whether or not he had an abscess of the liver, either single or multiple. The stool studies for amoebae and other tests which were done would indicate that they may have thought that he had an abscess in his liver. I think the other fact is that they did not know what the difficulty was so they thought an exploratory laparotomy might be helpful. It was; it showed a liver which was slate-gray in color; which was enlarged and on the surface of which were many large nodules. The common bile duct was normal; the gall-bladder was normal in size and contained no stones. There was no dilatation of the common duct, and apparently no obstruction at the sphincter. These findings, of course, are extremely important and helpful. More important still, is that the exploration of the remainder of the upper abdomen was negative, so the conclusion was that the pathology rested in the liver. A biopsy of the liver was taken and a T tube was inserted in the common duct. After the operation, the temperature came down and for ten days was normal, but in the meantime the pathologist sent in a report saying that this represented "hepatitis and fibrosis" of the liver whatever that may mean. However, the patient did not remain well too long, though interestingly enough, he had excellent drainage of bile through his T tube. His temperature came down and he appeared to be somewhat better but soon his temperature went up again, and he began to feel weak and prostrated, his jaundice began to deepen, and he was losing ground consistently. The patient gradually went downhill and died, and there was nothing else unusual noted at this time, particularly as regards change in the size or consistency of his liver and development of ascites. His death was slow and apparently was precipitated by no particular complication.

The patient had a low grade anemia with a hemoglobin of 10.8 grams on two occasions, both when he first came in and again later. The red cell count was approximately 4 million so his anemia was not striking. On two different occasions, he had a mild leukocytosis with a fairly normal spread on the differential—80% polys, 17% lymphs and % eosinophils. Blood chemistry showed a 2+, 4+ and then a 1 + cephalin flocculation and one wonders why the fluctuation in this test. We must remember that the cephalin flocculation is rather susceptible to many changes in one's general condition; namely, too high fever and many other factors, so perhaps this is a nonspecific reading and does not mean that it represents hepatic dysfunction. The BSP was exactly 36.8% on two different occasions. In a man with jaundice, this would mean nothing to me. If I am wrong, I would like Dr. Kuppfer and Dr. Young to comment on it. In the first place, I think all of us agree that it is hazardous to run a BSP in a case of jaundice, except when the laboratory uses a particular photoelectric colorimeter with which they can differentiate the color change in the serum carefully. It is commented that the finest way to get an increased BSP is just to produce fever in anybody—nonspecific fever will very often result in re-

tention of BSP, though not as high as 36% as a general rule. Investigators at the University of Virginia showed this by giving typhoid fever intravenously. At the height of the fever there was a retention of BSP. This patient had a normal serum protein, essentially, 7.3 and 7 on two different occasions with an albumin of 2.5 and a globulin of 4.8. The serum bilirubin is interesting. He came in with a total bilirubin of 4 mgs.%, and a direct reading of 2.7 mgs.%, giving an indirect reading of 1.3 mgs.%, and that was almost the proportion of the prompt and indirect reading of the van denBergh test on all three occasions. Later it was 15.4 mgs.% direct and 7 mgs.% indirect which would mean he had a moderate degree of jaundice which deepened to a higher degree. Would this help us any? I believe not because in any type of jaundice, either in obstructive or hepatogenous, you may get that sort of reading. I should say it was entirely nonspecific and merely indicates the presence of hyperbilirubinemia and nothing else. The stool findings are misleading because one stool examined early showed a positive urobilinogen and one taken later showed a negative urobilinogen. They were examined weeks apart. There is no comment made as to the color or these stools, and there is no mention of the urinary urobilinogen. Many cultures were taken and they were all negative. The serum amylase was 19 units; later the NPN was 42 mgm.%, and the Wassermann was negative. The urine was essentially normal except for a trace of albumin and a 1+ sugar. The sugar is interesting because nowhere else in the protocol do we have the mention of a repeat urinalysis, and we have no blood sugar determination to determine whether the urinary sugar is significant or not. The microscopic study of the urine was normal and there were no amœbae in the stool.

From the standpoint of his laboratory findings, it seems to me that we can conclude two things only; namely, that he had a low grade leukocytosis and evidence of some pathological state that caused a reversal of the A-G ratio. This, as you know, can be due to any type of disease involving the reticuloendothelial system. It is notably true in liver disease that anything that will raise the globulin may reverse this ratio. The albumin was 2.5 gms.. I do not think anyone knows why there is a reversal of this in hepatic disease. There are many interesting theories, but we just do not know the reason. These are about the only two positive findings that are worth much to me. You might say that the amylase helps us in the determination of pancreatic function and that his urinary tract was essentially normal, but other than that, we cannot definitely say that this represents a significant hepatic disease which is diffuse or intrinsic, nor can we say that it represents disease of the extra biliary tract. That is all I can gather from the facts. To summarize, here is a man taken sick two months before admission with an illness which is characterized by spiking fever, deep jaundiced and hepatomegaly who died within 3 or 4 months, probably in cholemia, and who was found to have on pathologic examination, a nodular liver, and one which under the microscope appeared to show inflammatory reaction within the liver parenchyma and a reaction to that, namely, fibrosis.

Now, the only thing for us to think about is, is the pathologist correct? Does this represent a form of hepatitis with a fibroblastic reaction or does it not? This patient had drunk alcohol moderately over a long period of time; alcohol may be a factor with other things in producing fatty deposition in the liver. He had a nodular liver which is acceptable for a person who has had chronic liver disease with fibrosis of any type. He had a reversal of his A-G ratio, which is characteristic of intrinsic liver disease; he had microscopic changes in the liver cells which were thought to be due to hepatitis.

This may indicate that we are dealing with a patient with hepatitis. Hepatitis, however, is unusual in a person over 60 years of age who has not had some diffuse and definite hepatotoxic agent. You might say that the patient had a chronic hepatotoxic agent. He may have been a cleaner and inhaling carbon tetrachloride over a long period of time or he may have been doing other things, but he was not sick until 2 months before his admission when he became deeply jaundiced. Most patients with hepatitis do not do that unless the illness is acute to start with. This man gives no such history. The length of time he lived (2 to 4 months) is a short time for a person who has that type of hepatitis. If he did have hepatitis, he should have chronic fibrosis of his liver, and if he had chronic fibrosis of his liver, he should have had many stigmata of chronic hepatic disease. He should have had definite varices perhaps and a large spleen, gynecomastia and "liver

palms" and many other things which this patient did not have. I think that we can say that he has shown none of the evidences of a chronic, long-standing hepatic disease.

Another thing I think important is the type of fever he had; a more or less septic type of temperature. I am personally not familiar with any type of hepatitis in which a septic temperature occurs, with the possible exception of amebic hepatitis. An increased number of circulating leukocytes indicates that you are not dealing with what we commonly term a hepatitis, unless the hepatitis is due to an obstruction in the common duct such as is seen in suppurative cholangitis in which there is an ascending infection into the hepatic ducts, so it would be most unusual, it seems to me, for this man to have had an extensive fibrosis and not have a positive cephalin flocculation. All of these things are definitely against hepatitis.

It may be worthwhile for us to stop a minute now and consider the types of hepatic injury necessary to produce certain pathological changes. For instance, what type of hepatic injury will produce a markedly nodular liver surrounded by fibrosis. It is my understanding that only massive necrosis will produce such a change. This means necrosis of a large portion of the liver involving many lobules in which the reticulum structure is destroyed, and in the effort at regeneration, there is fibrosis also. So it seems to me we have to postulate massive necrosis if we accept this as meaning chronic hepatitis. The ordinary person who has simple viral hepatitis, or the chemical hepatitis that we see, normally has a zonal necrosis. It is true that long-standing irritants, for example, the iron of hemochromatosis, may produce a similar picture. Fatty degeneration over a long period may at many times produce a marked change and a great deal of lobulation. Gummas of the liver may distort the liver tremendously. So there are all forms of hepatitis in which a given injury can produce such a clinical picture as we see here. The thing which concerns me is that we have no indication as to what the etiology may be, where the trauma came from.

Biliary cirrhosis can produce a somewhat similar picture. Biliary cirrhosis, as I have indicated, is always due to obstruction of the common duct or to the outflow of bile into the duodenum, or essentially due to that. I do not think we have any evidence that that is true in this case. His common duct was not obstructed, nor was it even dilated such as it may have been if a stone had been present obstructing the duct and the stone later dropping out. Second, the color of the stools were essentially normal. On one occasion he had urobilin in his feces. However, he had a septic temperature, a leukocytosis, and enlarged liver, no enlargement of the spleen; all are factors that could have produced a biliary cirrhosis of the type which may have produced this picture.

I think we have to consider some inflammatory condition. Tuberculosis produces tuberculomas. He had no evidence of any systemic tuberculosis of any kind. He had leukocytosis and a spiking fever, and this it seems, would be unusual to me with no active focus. We do not have a chest film, which would be of some help. Actinomycosis of the liver has been reported. It is unusual and it is seldom a primary disease in the liver, and the fact that we have an exploratory laporatomy showing that there is no other organ in the peritoneal cavity involved, makes actinomycosis unlikely.

The lymphomas, such as Hodgkin's disease, can certainly produce nodules with perhaps fibrosis around them. However, there was no report made of any enlarged lymph nodes being found in the peritoneal cavity. It would certainly be unusual if his pathology was solely limited to the liver and no other organ. And, in the absence of a chest plate, we have to say that there is no other organ involved that we know of.

Hemochromatosis has to be considered because it does produce irritation and fibrosis as a result of the hemofuscin and hemosiderin deposited within the hepatic parenchyma. This man has a large liver. Usually hemochromatosis is most unusual over the age of 60. Again, it is usually a liver that is smooth, enlarged and granular, but not nodular to this degree. The patient had glycosuria. One begins to wonder whether that is significant or not. We do not know. However, one does not have the other evidence of hemochromatosis so I think we can pretty well discard it as being a possibility.

The protozoa, namely, amoeba, must be considered. This man had no diarrhea; but that doesn't mean much. A great many people who have amoebic abscesses or amoebic hepatitis, do not have diarrhea. Multiple abscesses might produce nodules in the

liver. A single abscess is much more common than multiple ones. It is interesting that in amoebic hepatitis and abscesses, there is always leukocytosis in the early stages. However, it does not seem to me to have the other evidences that we need to consider in a diagnosis of amoebic infection.

Sarcoidosis has to be though of—it can produce any type of granulation in the liver, but again, it would have to be the only organ involved. However, he does have a hyperglobulemia, which is commonly associated with sarcoid disease; however we would expect his spleen to be large and infiltration into some other organs. I shall discard this possibility.

Gummas are to be considered. Dr. Kinloch Nelson made a statement in a meeting I attended a couple of months ago that there was only one case in Dr. Frank Apperly's collection of gummas of the liver. If it is that rare, I think we had just better discard it. It certainly is a rare disease. The patient's Wassermann is negative which doesn't exclude the diagnosis, but even if the Wassermann was positive, it would not be a valid assumption to assume that the hepatic pathology was due to syphilis. It has to be thought about, but it does not seem to me to explain the picture.

I do not believe he had a benign tumor. I think all of us can agree to that. One thinks also of the sarcomas. Sarcomas will act very queerly in a liver, they do not usually produce that type of nodularity. I do not think we have any evidence for this since one would gather that the pathologist would not have much difficulty in differentiating such a condition; I think we can probably rule it out. One should consider metastatic carcinoma. He has nodules in his liver with mild fibrosis, and he dies in deep jaundice with a septic temperature. All of us know that metastatic carcinoma of the liver can mimic anything in the abdominal cavity. However, if this is the diagnosis, where did it originate? His stomach is normal; his colon, I suspect, is normal, since he has no evidence of obstruction or blood loss or anything else. He has no evidence of any other type of primary disease within his peritoneal cavity nor within his lung—I think you have to consider the lung carefully; all of us have seen a small primary pulmonary lesion in the bronchus, manifest itself only in the peritoneal cavity in the liver therefore, you have to consider something like an oat-shaped cell tumor which is very difficult at times to differentiate, and which one must always call to mind and think about. We have no evidence to indicate that the patient might have a primary tumor in the lung.

The pancreas must also be considered. He had a type of pain which could be due to pancreatic disease. Usually, if you have a pancreatic tumor that is causing jaundice, you have a typically obstructive jaundice. It would be difficult, therefore, to say that this man had a cancer at the head of the pancreas with the type of jaundice he manifested. Had he had a carcinoma in the tail of his pancreas, he would not have had any jaundice at all, except from possible metastasis from the tail, and it seems to me that that could happen, but by that time, I think he would also get continuity of the tumor into the head and probably would have obstructive jaundice, which this man did not have. The loop of the duodenum was not enlarged. He did have a little sugar in his urine on one occasion and it is interesting to note that people with carcinoma of the pancreas will run sugar on one test and none on the next so at least this diagnosis has to be entertained as a possibility. The other consideration is a primary carcinoma of the liver, and here we are dealing with a difficult diagnosis at any time. This man we will say had a high degree of icterus—I think we can say that in primary cancer of the liver, one of the common things is that a patient gets along pretty well, and suddenly begins to go downhill with icterus becoming more pronounced, and usually there is evidence of increased portal tension, etc. This patient had a deep jaundice which continued, he had weight loss, he had pain which would be acceptable, and he had moderate fibrosis in the liver. We all know that fibrosis is a common accompaniment of primary cancer of the liver, but the amount of fibrosis is important. This man, if he had had a typical cirrhosis for a long period of time, would, I believe, have shown many more changes in his liver, than were reported by the pathologist on the biopsy. Hepatoma more often occurs in people who have diffuse, intrinsic liver disease for a long period of time. It is common to have fever; it is common to have leukocytosis, and I do not think from the evidence we have that we can discard it. Against it, however, is the fact that we have a pathological specimen which shows hepatitis plus fibrosis. Well, this is very interesting, but I have been told many times by a pathologist that the cells of hepatoma are

identical to the normal polygonal cells of the liver so that at times, the hepatoma just resembles a normal liver so to speak. Thus, it is possible that the pathologist could have been looking at a nodule of polygonal cells, which look like normal ones. They were cells of a new tumor or neoplasm or a new liver tying to be formed by the hyperplastic reaction from neoplastic cells. One of the common ways a hepatoma manifests itself is that it is similar to a liver abscess in that it produces fever leukocytosis. Therefore, despite the pathological report on the biopsy, I believe that the information I have fits the picture of a primary hepatoma grafted on a liver which has had some previous hepatic pathology, but not major pathology. I would favor hepatoma over cholangioma only by the fact that there is more fibrosis with the former, as a rule, because it is more commonly associated with the cirrhotic syndrome. However, I do not think we can say which it was. I do not think we can entirely throw out biliary cirrhosis. It worries me a little about the cerebral change, with his pupillary abnormalities, whether or not he may have something in his cerebrum to account for it, I do not know.

HOSPITAL DIAGNOSIS AT TIME OF DEATH: (1) Subacute yellow atrophy (2) cirrhosis.

DR. CARAVATI'S DIAGNOSIS: Primary carcinoma of the liver.

PATHOLOGICAL REPORT: DR. GORDON R. HENNIGAR*.

The liver, at autopsy, weighed 2,000 grams, but appeared to be somewhat smaller than normal. On close inspection, the organ was green in color and consisted of prominent lobules separated by quite apparent translucent connective tissue. Undoubtedly, the latter contributed greatly to the weight of the organ. On close inspection the whole liver was the "seat" of fine nodularity (Fig. 1). Occupying the hilar region was a poorly defined, firm, white mass measuring 5 to 7 centimeters in widest diameter. At necropsy, it was felt from gross observance, that the tumor would be arising from a large, intrahepatic bile duct. The gallbladder and extra-hepatic ducts showed no obstruction.

Microscopically, one sees the appearance presented by a longstanding obstruction to the outflow of bile. The intralobular canaliculi are dilated and

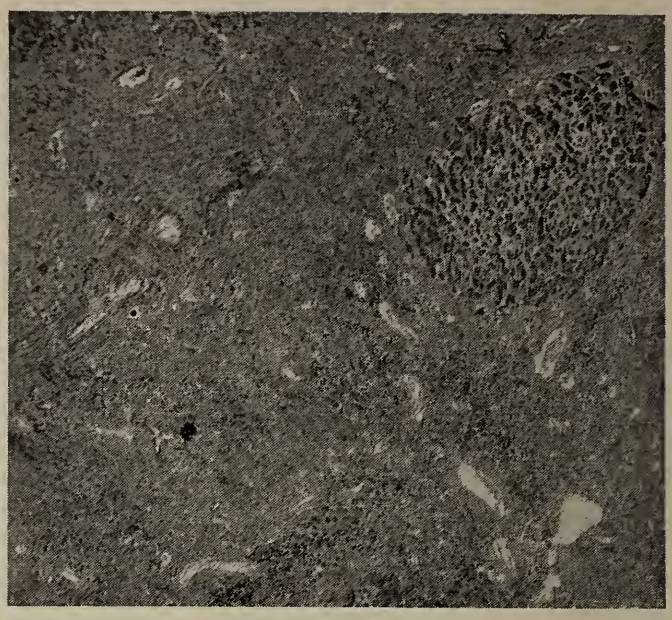

Fig. 1. Note isolated lobules separated by connective tissue.

contain "bile thrombi" or "bile cases". Frequently, these are sizeable (Fig. 2). Many of the adjacent liver cells are small, contain cytoplasmic granules and considerable bile pigment. Sudanophilic material (lipid) is seen in some cells, but is far from abundant. The amount of reticulum and collagen of the supportive framework of the lobule and portal areas is ostensibly in excess of normal. In the portal areas one is struck by great numbers of bile ducts and ductules (Fig. 1). These were most probably derived from pre-existing bile channels by hyperplasia (proliferation), however, their origin from lobular hepatic cells is always an entertaining idea. No

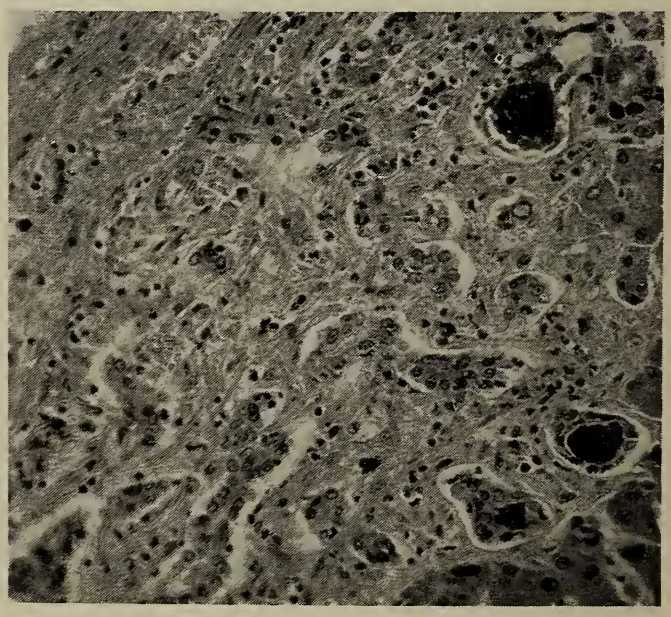

Fig. 2. Proliferative bile ductules and "bile thrombi" are evident.

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Fig. 3. Malignant glandular structures ramifying throughout, amongst the scarred areas.

mitoses were seen in these proliferating cells.

Sections of the neoplasm reveal it to be composed of malignant cells arranged in a glandular pattern, surrounding spaces, a few of which contain bile (Fig. 3). The cytoplasm is plentiful and the cells are arranged in an orderly fashion. The nuclei show a moderate degree of variation in size, shape and staining qualities. Prominent nucleoli and atypical mitotic figures are not difficult to find. Extremely bizarre mitotic figures and large tumor giant cells, so frequently found in hepatocarcinoma (hepatoma), are conspicuous by their absence. A feeling of inadequacy, when dealing with these tumors, often descends upon we morphologists. Not infrequently, we see histological patterns which in one field will resemble a bile duct adenocarcinoma (cholongioma) and in another be reminiscent of hepatocarcinoma (hepatoma). Of course, it is possible to have two different carcinomas in the same liver. Lastly, we all are familiar with the more than coincidental occurence of Laennec's cirrhosis (portal cirrhosis) and hepatocarcinoma. It has been estimated variously in different series that hepatocarcinoma is superseded by portal cirrhosis in 65 per cent to 85 per cent of cases. Very little is ever said concerning the finding of hepatocarcinoma in a liver, the "seat" of biliary cirrhosis. Recently, I had the opportunity of studying two such cases.

Certainly, there is much left to be desired in our understanding of the role and relationship of biliary cirrhosis, portal cirrhosis, and post-infectious hepatitis cirrhosis, to the development of the carcinoma of the liver.

Pathological Diagnoses:

1. Primary intrahepatic adenocarcinoma bile ducts (cholangioma).
2. Biliary cirrhosis.
3. Bile nephrosis.
4. Bronchopneumonia.
5. Testicular atrophy.

Floral Eponym

Forestiera

Charles Le-Forestier

Forestiera is a genus of 20 species of New World shrubs of the olive family. F. acuminata goes by the common name of swamp privet.

Charles Le-Forestier was a French physician and naturalist who flourished about 1800.

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,
Commissioner, Department of Mental Hygiene and Hospitals.

Care of Syphilitic Patients at Central State Hospital*

The incidence of syphilis in the new admissions to this hospital is high, therefore, there is an adequate opportunity to study and compare the various types of treatment for this condition.

During the first week following admission to the hospital, complete physical and laboratory examinations are done on each patient. Of the 1,003 new admissions for the year ending June 30, 1950, 291 or 29% were found to be infected with syphilis in some form. Of these 106 or 10.5% had syphilis of the central nervous system and 185 or 18.4% syphilis in other forms. Though this percentage appears large it is a decided decrease from previous years and is probably due to more effective treatment at the State Health Centers.

Treatment here is promptly started as soon as the diagnosis is made and confirmed. For those who have syphilis other than of the central nervous system, our treatment consists of 7,500,000 units of penicillin given 300,000 units for twenty-five consecutive days and at the same time mapharsen .06 grams each week for twelve consecutive weeks, followed by bismuth 1cc for twelve consecutive weeks. This is followed by a rest period of two months at the end of which time a check is made of the blood Kahn and Kolmer and if found still positive, another course of mapharsen and bismuth is given. If negative they are rechecked in three months and then at six month intervals.

When the psychotic condition of these patients improves sufficiently an effort is made to get them home and a copy of our laboratory findings and treatment record, with a request for follow-up checks and treatments, is sent to the Health Department in the city or county where the patient lives.

Those found to have central nervous system syphilis are given 7,500,000 units of penicillin in conjunction with fever cabinet treatments, 10 to 15 treatments being given at a temperature of 105 degrees over a period of six hours at weekly intervals. While under cabinet treatment mapharsen is given while in the cabinet and after completion of the cabinet treatments the patient is started on bismuth. When this is completed a recheck examination of the blood and spinal fluid is made. When a patient has shown sufficient improvement mentally, he is permitted to leave the hospital at the completion of the above outlined procedures, and a copy of our laboratory findings and treatment and the name of patient is sent to the Health Department in his home county or city with a request for follow-up checks and further treatment if necessary.

Some of our patients who are found to have central nervous system syphilis are inoculated with malaria, the quartan type being used. In these cases we usually proceed with the penicillin as outlined above, this to be followed with malaria inoculation and then mapharsen and bismuth is used following the completion of the malaria therapy.

In some cases we have felt that malaria therapy was superior to the artificial hyperpyrexia but the latter is easier to control if the patient doesn't react well.

Of the 106 patients who had syphilis of the central nervous system during the past year, 67 recovered or improved sufficiently to be released from the hospital with 14 returning to the hospital for further treatment. However, after remaining a while and receiving additional treatment, a number of those were able to leave again.

When our patients are admitted early in the course of the disease so that we can start treatment before too much brain destruction has taken place, nearly all improve to such an extent that they can return to their homes, and, in many cases, resume their former occupations.

We feel that the results obtained here by the above outlined treatments will compare favorably with those done anywhere in the country.

We have been particularly careful to have our laboratory procedures here checked. The blood and spinal fluid in each case is examined both here and in the State Laboratory in Richmond and when there is a discrepancy between the reports we always have a re-examination made in both laboratories.

*Article prepared by M. S. Brent, M.D., Superintendent of Central State Hospital, Petersburg, Virginia.

PUBLIC HEALTH

L. J. Roper, M.D.

State Health Commissioner of Virginia.

The Physician and Morbidity Reporting

Since the practicing physician is the source of morbidity reports, it is obvious that an effective reporting system implies on his part a realization of the importance of prompt reporting and harmonious working relationships between him and the local and State health departments.

Accurate reporting of communicable disease morbidity is essential for epidemiological investigation and analysis of:

(1) Communicable disease trends

(2) Sex-race distribution

(3) Geographical and seasonal occurrence

Uniformity in reporting is necessary in order that valid comparisons of disease in one locality or state can be made with other states, with the country as a whole and with other countries. This is particularly true in our modern world where, with rapid transportation facilities, persons who have been exposed and contracted communicable disease in one continent can easily reach another continent in the first days of the incubation period.

Our modern system of reporting is only three-quarters of a century old. In 1870 local boards of health began to require reporting of the more important contagious diseases. Tuberculosis had long been considered a family taint, but gradually through public education it began to be thought of as a communicable disease and was made reportable in the mid-nineties.

Earlier attempts at communicable disease reporting had been incidental. As early as 1741, Rhode Island required tavern proprietors to report contagious diseases among their guests and in 1821 Louisiana State Law required similar reporting from keepers of taverns and boarding houses.

Prompt and reliable reporting assumes a new and vital importance in a period when we must consider and prepare for defense against possible biological warfare. Such warfare by sabotage of water, of food supplies or by aerial contamination of buildings could produce serious consequences. Inadequate as our present defenses may be, the importance of epidemiological intelligence and the investigation of all epidemics as they occur is obvious. Only with prompt information can immediate control and defense measures be undertaken.

Morbidity statistics are our most delicate measure of the control of communicable disease. An adequate reporting system must be prompt and dependable—one that utilizes to the full the facts concerning disease incidence currently known to physicians, hospitals, and laboratories. In a world as closely knit as ours is today, time is of the essence.

The Morbidity Report of the Bureau of Communicable Disease Control

	April 1951	April 1950	Jan.-April 1951	Jan.-April 1950
Brucellosis	4	10	20	23
Diarrhea and Dysentery	119	222	748	1,174
Diphtheria	8	11	52	79
Measles	3,075	499	7,154	1,012
Meningitis (epidemic)	11	14	55	61
Poliomyelitis	1	3	14	13
Rocky Mountain spotted fever	0	0	0	0
Scarlet fever	99	84	578	420
Tularemia	1	2	18	18
Typhoid and paratyphoid	2	4	18	24

MEDICAL SOCIETY OF VIRGINIA

MINUTES OF THE COUNCIL

The Council of the Medical Society of Virginia was called to order on April 26, 1951, at 1105 West Franklin Street, Richmond, Virginia, by the President, Dr. C. L. Harrell. Dr. Walter A. Porter gave the invocation. Dr. Harrell then gave his report to Council in which he welcomed them to the new house and expressed gratitude to the Richmond Academy of Medicine for their aid in the past. Dr. Harrell gave a resumé of his activities during the past months, as representing the Society in functions all over the State.

The roll was called; those present were: Dr. Harrell, Dr. John T. T. Hundley, Dr. M. Pierce Rucker, Dr. L. J. Roper, Dr. Walter P. Adams, Dr. Guy W. Horsley, Dr. Wilkins J. Ozlin, Dr. Walter A. Porter, Dr. Frank A. Farmer, Dr. Vincent W. Archer and Dr. James P. King. The minutes of the Council meeting, January 18, 1951, were then read and approved.

Dr. Harrell told of his conversation with Dr. Kinloch Nelson, with reference to the meeting scheduled by the Department of Clinical and Medical Education by the Mid-Tidewater and the Northern Neck Medical Societies at Tappahannock recently. This was elaborated upon by Dr. Malcolm H. Harris.

Dr. Adams told of progress in plans for our convention at the Cavalier Hotel in October, and there was considerable discussion of a number of detail items, such as scarcity of rooms, schedule of meetings, arrangements for the banquet, speakers, etc. It was found to be the sense of the Council that one-half hour period should be set aside for a presentation of the American Medical Association and its activities to be followed by discussion.

The Council was told of opposition to beginning the meeting on Sunday, but this was tabled for consideration by the succeeding President. Dr. King offered a resolution proposing the development and distribution of a Directory of officers, committee members, and possibly the entire membership of the Medical Society of Virginia, the cost to be considered. A committee of Dr. James P. King, Dr. Vincent W. Archer and Dr. Frank A. Farmer was named to study this.

The Council gave considerable thought to the time of meetings, the election of officers, and the report of membership by local medical societies, with the view that some benefit might accrue from more uniformity in this regard so far as furnishing the State Office with pertinent information in due time. It seems highly desirable that officers for the current year and membership of local medical societies be reported to the State Office by December 1 of each year. The proposal of making an effort to include the membership of the State Society in the Roster of Physicians and Surgeons, recorded each year by the Board of Medical Examiners, was discussed. Someone raised the question if this could not be done in the MONTHLY. Dr. Archer pointed out this had been tried before and indicated that the cost of such a roster in a Directory might be considered.

Dr. Harrell called on Dr. Malcolm H. Harris, Chairman of the Ethics Committee, for a report. Dr. Harris presented a resolution from his Committee as follows: "The Ethics Committee of The Medical Society of Virginia unanimously concurs in the principles of medical ethics covering The Medical Society of Virginia, which are in compliance with those of the American Medical Association. These condemn any manner of so-called 'kick-backs' or 'fee-splitting' to physicians. This ethical principle is as follows: . . . The acceptance of rebates on prescriptions or appliances, or of commissions from attendants who aid in the care of patients is unethical. An ethical physician does not engage in barter or trade in the appliances, devices or remedies prescribed for patients, but limits the sources of his professional income to professional services rendered the patient. He should receive his remuneration for professional services rendered only in the amount of his fee specifically announced to his patient at the time the service is rendered or in the form of a subsequent statement and he should not accept additional compensation secretly or openly, directly or indirectly, from any other source'."

Dr. Harris indicated that judging from reports of Richmond newspapers, there seemed to be some feeling that this was a matter that the General Assembly of Virginia should handle. Dr. Harris expressed the Committee's view that this was a matter that should be handled within the profession and his letter to the Governor on this subject was read. The Governor's reply indicated his confidence that the profession could handle it.

Dr. Harrell referred to the newspaper publicity in Norfolk on this and told of his reply to it.

Dr. Harrell mentoned this practice prior to 1916 in Norfolk and the action of the Norfolk County Medical Society, then. Dr. Horsley referred to progress made in the Richmond area since 1945.

Dr. Adams suggested the advisability of publicity on "Medical Society of Virginia denies 'kick-backs' in the last five years."

Dr. Harris thought of the importance of approaching this through the component societies, though it was stated that some of them did not have this to deal with. It was also brought out that if the local society did not handle it, the State Society should.

Dr. Archer inquired of the wisdom of expulsion from the society of any who persisted. Dr. Farmer felt that some burden of proof was on those who had been accused.

It was deemed advisable to write those whose names

appeared in the court record indicating that the Council desired to clear this matter. It was agreed that the office should do this with the approval of the Ethics Committee and that a statement should go to the Society of Oto-Laryngology and Ophthalmology. Dr. Hundley offered a motion that a copy of the report of the Ethics Committee and a statement of its approval by the Council be sent to the Secretary of each component Society and to certain special societies and that they be requested to read these to their membership requesting that evidence of a continuation of this practice be sent to the Ethics Committee. This was passed. Dr. Archer's motion requesting the Oto-Laryngology and Ophthalmology Society to condemn such practices was passed. It was agreed that a statement on this subject should be prepared for the press.

Dr. Harrell then asked Dr. King to discuss the American Medical Education Foundation. Dr. King referred to the beginning of this movement in Cleveland and the appropriation to this by the Medical Society, and said after some discussion of this, he and Dr. Harrell felt that it was a matter that should come before the Council. In the meantime, he had discussed it with the deans of our two medical schools. Both deans preferred that funds come directly from within the state, but thought some Federal assistance would be necessary. Dr. Harrell referred to the results of a poll of the Council. Dr. Archer referred to correspondence with Dr. Elmer Henderson, in which it was stated that funds earmarked for medical schools of one's choice would be turned over directly to them. Dr. Adams pointed to the merit of this being handled by individual societies. Dr. Archer inquired of the wisdom of contacting each member through their Alumni Association, encouraging them to subscribe to the school of their choice. He also said that Dr. Rucker suggested that Dr. King write an editorial for the Monthly. Dr. Harrell thought it should be left up to the local component societies. Dr. Hundley felt that it should have the approval of the State Society. Dr. Adams felt that Dr. King's editorial could take care of this.

Dr. Harrell requested Dr. Rucker to report for the Program Committee. Provision had been made for approximately 40 papers and guest speakers. There was some discussion of the printed program used by the General Practitioners. Dr. Rucker indicated that they wanted to designate the time for the papers this year, so that physicians could plan their attendance, and emphasize the importance of having the program run on schedule. Dr. Harrell mentioned that colored physicians can attend meetings in the Panorama Room.

The role of non-members of the Medical Society of Virginia holding office in local medical societies was discussed, but it was agreed that local autonomy should prevail.

Considerable discussion followed on the subject of inactive societies, but no action was taken. Dr. Harrell suggested that the Secretary try to revive interest in these societies.

Dr. Harrell then brought up the subject of stimulation of work of the various committees of the society. After considerable discussion, Dr. Hundley thought that work should never be relegated to a special committee on a subject in the field covered by a Standing Committee. Dr. King disagreed. He felt that things to be done should be given to interested people.

Dr. Ennion S. Williams also reported on some progress of the program committee. He indicated that tentatively it had been decided to postpone planned discussions after general sessions until after the sectional meetings. He gave a tentative outline of the program. There was some discussion of their efforts to arrange the schedule. It seemed that the proposed medical Examiners Panel might not be arranged before the last day. Dr. Hundley liked the idea of a post-convention Council meeting. Dr. Archer inquired of the date of specialty luncheons. Dr. Rucker indicated a time had been recommended. Dr. Harrell expressed a desire that the program Committee would use Vice-Presidents in presiding.

Dr. Archer, Dr. Porter and Dr. Harrell inquired of our expenditures and income.

A financial report showing receipts of $61,923.90 and disbursements of $79,785.26, which included $27,371.06 spent for and on the house to date.

The question of annual dues paid by Health Officers arose, this was construed to constitute a hardship in some instances, though no arrangement was agreed upon.

The subject of converting to oil heat in the house was brought up and Dr. Archer inquired of the operating expenses. Bids on converting to oil heat were read. Dr. Roper felt that comparable items should be covered in competing bids. Dr. Archer offered a motion that Council authorize the House Committee to proceed with installation of oil burning equipment, not to exceed $2,500 with outside oil storage. Dr. Roper was added to the House Committee. Dr. Harrell inquired if we should rent any of our space.

The question arose about the need of space on the second floor for the Medical Society of Virginia and possible rental of any unused space. The House Committee was empowered to rent out any space not needed above the first floor.

A motion was passed that we proceed with an application for exemption from taxes.

The question of insurance on the House was discussed and the Council agreed that the insurance should be increased to 75 per cent of the estimated value.

It was explained that our janitor had left us. This matter was left to the House Committee.

Dr. Porter inquired about any thought of re-districting, but it was agreed that nothing could be done until the legislature meets.

Dr. Harrell raised the question of an advertiser furnishing the program. A motion was passed that this be of the book-type, similar to that used by the General Practitioners provided the program committee wants it. It was pointed out that if this were done, all advertisers

should be advised of it.

Dr. Warthen then appeared to discuss any matters for the house committee. Some discussion ensued with respect to any changes to be made on the second floor and the committee was authorized to proceed with improvement in the basement, not to exceed $750, after the installation of the oil burner.

It was agreed that an issue of the MONTHLY feature the House or office and the Secretary was instructed to prepare some material on this.

Dr. King brought up the question of titles for office personnel. Dr. Archer moved that Miss Watkins be given the title of Executive Assistant. This was passed. There was some discussion of a title for Mr. R. H. Nash, but it was felt that the Public Relations Committee and the Secretary should be consulted on this matter.

Since there was no further business, the meeting then adjourned.

HENRY S. JOHNSON,
Executive Secretary-Treasurer.

A more comprehensive coverage of the detailed minutes is on record in the office.

PUBLIC RELATIONS

Council Convenes

Under the chairmanship of President C. Lydon Harrell, the Council of The Medical Society of Virginia convened April 26 at the new state headquarters at 1105 West Franklin Street, Richmond. Many expressed satisfaction with the adequacy, comfort, and attractiveness of the office.

Following Dr. Walter Porter's invocation, Dr. Walter Adams announced progress in making local arrangements for the forthcoming Society convention at the Cavalier Hotel. Lack of adequate space will reduce this year's income from technical (commercial) exhibits.

Programming reports made by Dr. M. Pierce Rucker and Dr. Ennion S. Williams indicate that some forty papers are expected to be presented. Plans are being made to announce the agenda in such a manner as to enable members to attend the sessions of most interest to them.

Dr. James P. King was selected to head a committee to study the feasibility of publishing a handbook containing the officers, committee chairmen, roster of members and other pertinent Society information.

Dr. M. H. Harris, Chairman, Ethics Committee, reported the results of the Committee's consideration of current references to kickbacks. The Council approved what had been done by Dr. Harris' group and directed that it continue its fact finding work regarding kickbacks, reporting to Council at the next meeting.

Various matters concerning the new office building were presented by Dr. Harry J. Warthen, Jr., Chairman of the House Committee. Authority was given to install a new heating plant and remodel certain basement space to afford adequate storage facilities.

At least a dozen other important items were discussed by the Council in a busy day's session.

Comprehensive, detailed minutes are kept in the office and a condensation of these are carried elsewhere in this issue of the MONTHLY.

Society Structure

Chosen annually by the component societies, the House of Delegates is the policy making body of The Medical Society of Virginia.

While not in session, the House of Delegates affairs are conducted by the Council in an executive-administrative capacity.

Normally convening three times yearly, nine Councilors—one from each Congressional District—in addition to the Society President, President-Elect, First Vice-President, the Immediate Past President, the Editor, and the State Health Commissioner compose the Council. Incidentally, if Congressional District lines are to be followed, it may be that some thought should be given to provision for the tenth member of Council in 1952.

In emergencies or in instances not of sufficient import to convene the entire body, an executive committee of the Council advises with the President. This committee consists of 3 members appointed annually by the President.

To comply with the State Society By-Laws, Members of the District Council should be elected not later than September 30 of each year. In instances

where this is not done, the Councilor should appoint these.

Headed by the respective Councilors, each District has a District Council. Seemingly, some degree of confusion exists as to the distinction between members of the District Council and Councilors. Following the provisions of the Constitution and By-Laws, there is a Member of the District Council representing each component medical society and one for each county in which there are physicians but no medical society. These work with and under the direction of the Councilor of the respective districts. Members of the District Council perform an important function in linking the membership with the state Council.

Holding annual conferences for the past few years, and participating in the annual Public Relations conference, these Members of the District Council have been in a better position to be informed and to assist the membership of local medical societies in matters of current interest coming to the attention of the state Society.

Physician Placement Program

"The Alumni Association was called upon by the citizens of Coalgate, Oklahoma, to aid Coalgate and vicinity in securing the services of a physician. The Alumni Association located a fine young physician who was interested in establishing his practice in Coalgate. However, the young physician, Dr. Wallace Byrd, could not go into general practice without some financial aid. The Alumni Association provided the aid. Below is reproduced a letter which the Alumni Association has recently received from Dr. Byrd, at the end of his first year of practice in Coalgate:

" 'It is a pleasure to be able to repay the University of Oklahoma School of Medicine Alumni Association the amount so generously advanced me to assist me in establishing myself in practice at Coalgate, and to be able to report to you that your forecasts of what could be done in this location have proved well founded. My practice is continuing to grow and I am presently approaching the point where I can see my office comfortably well equipped for the practice of internal medicine as a part of my general practice.'

"It is the feeling of the Alumni Association's Officers and Trustees that no finer gesture by Medicine in Oklahoma could do more to thwart the inroads of Socialized Medicine than by continuing activities of this nature."

The above article was sent the Society office by Dr. Andrew F. Giesen, member of the Public Relations Committee of The Medical Society of Virginia.

Temporary Physician Services.

Each year several requests come to us from physicians, licensed to practice in Virginia, for help in locating from one to three months during the summer.

An effort is being made to be of assistance to both those wishing to locate here and to those desiring the temporary services of physicians.

Cooperation by members is solicited.

Dues Exemption.

In accordance with what appears to be a national trend among medical associations, The Medical Society of Virginia Council has directed that payment of dues by members temporarily serving in the armed forces not be requested.

Venereal Disease Control Committee

Interpretation of the Blood Serologic Tests for Syphilis in Diagnosis and Treatment

Facts you should know about these tests in diagnosis:

1. About 1 in 4000 of the normal population shows a false positive blood test.

   (Note: the incidence in hospital populations is somewhat higher)

2. Some diseases other than syphilis are regularly associated with positive tests. (yaws, pinta bejel)

3. Some diseases are frequently associated with positive tests (leprosy, malaria, infectious mononucleosis, post-vaccination state, virus pneumonia).

4. Some diseases are occasionally associated with positive tests (trypanosomiasis, rat bite fever, leishmaniasis, kala-azar, disseminated lupus erythematosus, genital herpes, lymphogranuloma venereum, chancroid, chicken pox, subacute bacterial endocardi-

tis, infectious hepatitis, febrile states of varied etiology).

5. Some diseases may questionably be associated with positive tests (tuberculous toxemia, scarlet fever, measles).

6. Positive tests may occur in hyperglobulinemia, following foreign protein injection, in blood donors after several donations.

This should not discredit these tests since they are surprisingly specific and accurate if properly interpreted. Fortunately the false positive tests are either low titred or transient in nature (3 months or less).

Suspect in diagnosis a false positive test:

1. If there is disagreement between the precipitation test and the complement fixation test.

2. If the readings are low titred (to the quantitative procedure which is absolutely essential for proper serologic diagnosis).

3. If on repetition of the test within a few weeks there is obvious change in titre downward without treatment.

4. If there has been any possible clinical reason for a false positive test (See above 1-6 on the basis of the history or physical examination.

One may generalize for practical clinical diagnostic purposes that a repeatedly high titred quantitative reading means syphilis in the absence of evidence to disprove, whereas a low titred reading (8 units or less) means probably no syphilis particularly if there is fluctuation of readings and on repetition the reaction becomes less positive. (Note: There are occasional exceptions to this statement.)

It cannot be sufficiently stressed that it is better to repeat inconclusive tests over a period of months if necessary rather than make an erroneous diagnosis since treatment is usually not of an emergency nature if the person is asymptomatic (except syphilis in pregnancy). A spinal fluid examination may be necessary as part of the diagnostic work-up.

At times even under the best of circumstances results may be inconclusive. However, certain trends in diagnosis are reducing still further this inconclusive percentage; e.g., Neurath euglobulin inhibition tests, treponema immobilization test and the use of cardiolipin antigen. The first two procedures are still too experimental and difficult for widespread adoption; the third has been widely adopted.

One must also realize the possibility of a false technical positive reading (laboratory error, incorrect recording) since these tests are usually done in large numbers at a time.

Facts You Should Know About Interpretation of Serologic Tests After Treatment

1. In general the longer a person has had syphilis the more likely the tests will remain "fixed" or unaltered by treatment e.g.

a. In early syphilis (less than 4 years), the tests in a satisfactory treatment response usually became negative 3 months to one year after treatment has been concluded; therefore,

1. Don't expect any striking change in titre during or immediately after treatment.

2. Take monthly quantitative tests for one year after treatment. This will show the trend of the titre.

3. Continue serologic follow-up after the first year every 3-6 months for at least five years so that any relapsing case may be discovered by sudden definite rise in titre.

4. Note: There will be a small percentage of successfully treated cases of early syphilis whose titre will stabilize at a low level (4-8) units rather than negative.

b. In late syphilis (four or more years duration) do not expect any appreciable change in titre after treatment. Success of treatment depends upon periodic clinical reevaluation, and in central nervous system syphilis upon spinal fluid findings as well.

The problem of interpretation of spinal fluid findings is beyond the scope of this presentation. Briefly, it should be mentioned that a spinal fluid examination should be performed before treatment in all late cases of syphilis and 3-6 months after treatment in early syphilis.

HARRY PARISER, M.D., *Chairman*

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President ..... Mrs. C. M. McCoy, Norfolk
President-Elect .. Mrs. Herman W. Farber, Petersburg
Recording Sec'y .. Mrs. L. Benjamin Sheppard, Richmond
Corresponding Sec'y .... Mrs. Lemuel Mayo, Portsmouth
Treasurer ..... Mrs. Kalford W. Howard, Portsmouth

Northampton-Accomac.

The Auxiliary to the Northampton-Accomac Medical Society held its spring meeting at the home of Mrs. W. L. Cosby, Painter, on April 10th. Guest of honor was Mrs. C. M. McCoy, Norfolk, president of the State Auxiliary.

A delicious dessert and social period preceded the business meeting and each member was presented with a beautiful camelia with the compliments of the president, Mrs. W. T. Green, Jr., these being grown by Dr. Green.

At the business meeting, it was voted to give $10.00 to the Cancer Control Fund and $5.00 for an Auxiliary gift to the new offices of the Medical Society of Virginia in Richmond.

Mrs. McCoy then spoke on "The Art of Being a Good Doctor's Wife".

Mrs. W. C. Henderson, chairman for the Grace Wilkins Memorial Room in the Northampton-Accomac Hospital reported that venetian blinds had been installed and the memorial plaque placed on the door.

The next meeting of the Auxiliary will be with Mrs. C. E. Critcher at New Church on July 10th.

Catherine R. Trower (Mrs. Holland)
Chairman, Press and Publicity

Petersburg.

A report on the board meeting of the Auxiliary to the Medical Society of Virginia was given by Mrs. Carney C. Pearce, Jr., at the April meeting of the Auxiliary to the Petersburg Medical Society, held at the home of Mrs. Meade C. Edmunds. Mrs. Palmore Irving and Mrs. W. S. Grizzard were co-hostesses.

Plans for contacting local junior and senior pupils interested in nursing was discussed. The Easter egg hunt, sponsored in March, proved so successful that it may become a yearly project. It was announced that a rummage sale will be held May 10-12 to raise funds for the budget. It was voted to send $20.00 to the Jane Todd Crawford Fund and $10.00 for the Auxiliary Gift to the new offices of the Medical Society of Virginia in Richmond.

A luncheon meeting will be held on May 29th and Mrs. C. M. McCoy, president of the State Auxiliary, will be the guest speaker.

BOOK ANNOUNCEMENTS

Color Atlas of Pathology. Hematopoietic System; Reticulo-Endothelial System; Respiratory Tract; Cardiovascular System; Liver; Alimentary Tract; Kidney and Urinary Tract; Musculoskeletal System. Prepared under the auspices of the U. S. Naval Medical School of the National Naval Medical Center, Bethesda, Maryland. Philadelphia, J. B. Lippincott Company. 1950. xi-546 pages. Illustrated with 1053 figures in color on 365 plates. Cloth. Price $20.00.

This book "Color Atlas of Pathology" fulfills the purpose for which it was intended. Namely it is an atlas of pathology composed of colored gross specimens and microphotographs. The hematology section is composed of excellent pictures of blood smears in the various diseases of the hematopoietic system. The atlas covers a wide scope of diseases and the legends accompanying the pictures are brief, specific, informative and to the point. It is unfortunate that many of the beautiful gross pictures are small and one can make out detail only with strenuous effort. The X-rays of the various lung lesions are particularly clear and well done. The pictures taken clinically to show lesions of the oral cavity and its contents are indeed a work of art. The atlas due to its cost has limited usefulness. However, its excellence can hardly be challenged and it should be high on the list of useful books for supplementary reading for medical students.

G. R. H.

EDITORIALS

Ennion Gifford Williams (1874-1931)

IF EXCEPTIONAL capacity for work be a sign of genius, the subjects of these sketches were geniuses. All were scientists, true searchers after truth. With the exception of the non-medical discoverers of anesthesia, they seemed not to have been actuated by any money motive. Most of them showed remarkable wisdom in matrimony, marrying women who played an important, although inconspicuous, part in their careers. All had character in a remarkable degree and in most instances, the word "beautiful" could be properly applied to it. Perhaps the one who combined the above qualities in the most harmonious proportions, was the first Health Commissioner of the State of Virginia.

Ennion G. Williams was born in Richmond, January 31, 1874, the son of John L. and Maria Ward (Skelton) Williams. He attended the University of Virginia from 1892-97, graduating in medicine in the latter year. Upon his return to Richmond he became Professor of Pathology, Bacteriology and Histology in the Medical College of Virginia. He also engaged in the private practice of radiology, which was then in its infancy.

Public health work was also in its infancy, there being few specially trained men anywhere in the country. Dr. Williams became interested in the health movement and tried to get the health department of the City of Richmond organized along modern lines. This was a difficult undertaking. In order to put it across he ran for Council. He served on the City Council from 1905 to 1908, and succeeded in electing Dr. E. C. Levy as bacteriologist of the City Board of Health and finally as chief health officer. In the meantime, the State Legislature had created a State Department of Health. Dr. Williams tried to have Dr. Levy appointed commissioner as he was the only available man who had had special training, but for some reason Dr. Levy was not acceptable to the Governor. It looked as though the movement were doomed to failure for the want of a suitable head. In the crisis, pressure was brought to bear upon Dr. Wililams who gave up a lucrative private practice to accept the position at a considerable financial loss. He was appointed Commissioner in 1908, a position he held until he died June 6, 1931.

When Dr. Williams began to build a state health department he had an appropriation of $40,000 per annum. It was quartered, laboratories and all, on the first floor of an old neo-classic house on Capitol Street. There were few precedents to guide him. In an address in 1930 (*Am. J. Public Health* **20**: No. 12, 1930) he described the steps in the development of the Virginia State Health Department. They fell into three categories, education, epidemiology and laboratory. Since the act of the Assembly creating the State Health Department specifically directed that a sanatorium for the study and treatment of tuberculosis be established, and since tuberculosis was the major health problem at the time, the Catawba Sanatorium was one of the first accomplishments. During his lifetime two other sanatoriums for tuberculosis were established, "Blue Ridge Sanitarium," and "Piedmont" for negro patients.

The prevalence of typhoid fever and water borne diseases led to the establishment of the Bureau of Sanitary Engineering. In 1912 a survey, with the aid of the Rockefeller Foundation, showed the need of rural sanitation. It was shown that only 0.3 percent of rural homes had sanitary sewage disposal. Accordingly, a division of rural sanitation was begun, and this in turn led to a co-operative plan of the county, the state

health department and the U. S. Public Health Service for a sanitation officer. Dr. Williams' five point program for school children was known all over the country. In 1918 the General Assembly passed a law that required every school teacher to have passed an examination on physical education and physical inspection of school children. The five points were: eyes, ears, nose, throat and teeth. If these were normal, or if the abnormalities that were discovered, were corrected, the child was given a five point certificate. The certificates were awarded on a special day, called "child health day."

An unique development and one that showed Dr. Williams' interest in education and public health, is the "Teachers Preventorium" established at the University of Virginia Hospital in 1929-30. Here any teacher in the Public School System can go for a general check up and treatment at a nominal cost.

With the establishment of the Bureau of Vital Statistics in 1912, it soon became evident that maternal and infant deaths were entirely too frequent. A Bureau of Public Health Nursing and Child Welfare was established. Virginia is essentially a rural state and a great number of deliveries at that time took place in inaccessible localities and more than one third of them in the care of midwives. Public health nurses were employed to instruct prospective mothers by visits and by correspondence courses. Attempts were made to instruct the midwives and to regulate their practice and a Committee from the Medical Society of Virginia was asked to appoint a Committee to co-operate with the State Health Department in solving this problem.

Thus the Health Department developed from a $40,000 a year concern to one spending over a million a year. It became recognized as a model and in consequence thereof, Dr. Williams was elected President of the Conference of State and Provisional Boards of Health of North America from 1915-16. Dr. Alan Freeman, his Assistant Commissioner, became professor in the School of Hygiene of Johns Hopkins University, when that school was started, and eventually was dean.

The Virginia Health Department has continued to grow along the lines that Dr. Williams laid down. Last year it expended $6,484,415, and the reduction in the death rate and in the incidence of communicable diseases justifies this expenditure. Just as Sir Christopher Wren needs no monument so long as St. Paul's stands on Ludgate Hill, so Ennion G. Williams will be remembered as long as the Virginia State Health Department continues to grow and to function efficiently. Truly, Dr. Ennion Gifford Williams deserves the title "Statesman of Public Health."

The Rise and Fall of the "Springs" in Virginia

THE high, cool valleys of the Alleghany mountains in Virginia are dotted with mineral springs from Berkeley Springs near the Potomac to the Yellow Sulphur in Montgomery County. In the 18th century each spring was the seat of a resort which consisted essentially of cottages grouped about the spring, a dining room and a dance hall. Some of the more ambitious had swimming pools. Almost completely surrounding this highland area were broad, rich agricultural flat lands spread out like a hugh sycle—pleasant enough places to live in the winter, spring and fall, but uncomfortable and unhealthy in summer. This land was cursed with great epidemics of yellow fever that extended

up the Mississippi Valley or along the Atlantic seaboard. Occasionally, there were threats of the dread Asiatic cholera. In addition it was plagued with endemics of typhoid fever and malaria. In dog days it was impossible for white people, especially people of quality, to live in this land.

For over a century, "curing" and mating, gambling and dancing went on furiously at the Virginia springs. From the deep South the people came by steamboat to Guyandotte (now Huntington, W. Va.) and overland by stage coach. From the South Atlantic states they came by carriages with house servants and trunks in wagons. From the East they came by canal boat to the end of the James River and Kanawa Canal above Lynchburg. At the height of the season it was as hard to get accommodations in this vast area as it is to find a room in New York City today. Even in the hard days of Reconstruction the traffic kept up although the tempo of the amusements changed somewhat. In several generations after the War social leadership passed from Southern Belles to Northern and Western matrons of great wealth. Entertainments became extravagant—favors from Tiffany and reporters from northern newspapers. Private cars of R.R. presidents stood on special sidings. With the end of the century all this disappeared as suddenly and as mysteriously as the great flocks of wild pigeons that used to darken the skies of Transylvania. Of the few "springs" that remain, none is a "watering" resort in the old sense. One is a sort of Chautauqua. The Homestead and the Greenbrier have been rebuilt and are run like European spas.

Many explanations have been advanced for this phenomenon. Dr. John P. Little, writing in 1851, has this to say about the Virginia resorts. "The travel to and from the distant spring, where bad water is drunk for the sake of good health, strengthens the languid frame, and quickens the feeble pulse; and the valuable qualities of the water as a fountain of health are trumpeted forth by those who have received the benefits of the journey, the rough jolting and the plain fare, with the necessary scramble to obtain a proper share of it. The change of scene, absence of care, new associates, and firm belief in the virtues of the spring work wonders in the curable cases of disease.

"A railroad leading up to one of these health-giving springs, would very much destroy its reputation, by making it easy of access, and thus preventing the beneficial journey." He says the monks understood this principle in the middle ages when they put their hospices in inaccessible places. Percival Reniers, who has written a delightful book about the Virginia Springs, attributes the disappearance of these resorts to the coming of the automobile. However, the springs "folded up" fully a decade before the automobile came into use. Dr. James P. Baker is nearer the truth when he attributes the failure of the springs to the improvement of public health in the country as a whole and especially in the South. It was in the Spanish-American War that the house fly was incriminated as a carrier of typhoid bacilli. He was shown to be a greater menace in country districts than either water or milk. The brilliant researches of the Walter Reed Commission, right after the war, when the role of the mosquito in the spread of yellow fever was proven, is well known. The public learned to swat the fly, screen the home and drain rain puddles and the summer migration to the mountains was no longer necessary. Resorts at the nearby seacoast became possible.

A dissertation might be written about the changes in our ideas about individual hygiene that took place at about this time. The public lost interest in water. Lithia water as a solvent of uric acid is no longer discussed. Mineral water from famous springs or wells is no longer shipped over the country. Gouty diathesis as a topic of

conversation was replaced by a discussion of the kind of climate that is good for sinus trouble. Now the talk is of health foods—overweight and undernourishment. The girls have lost interest in crinoline and organdy and exhibit instead a well distributed coat of tan. Glamour has no place in modern makeup.

Henry Satterwhite Johnson

AS WE are about to go to press the sad news comes of the death of our Executive Secretary-Treasurer and Director of Public Relations. Mr. Johnson died May 23rd in the early morning hours. In the past year and a half he had had several coronary attacks. He went to the hospital several days ago, but failed to respond to treatment as he had done in previous attacks.

His connection with the Medical Society of Virginia began in March 1946 when he was appointed Director of Public Relations. Previously, he was connected with the State Department of Education. At the time of his appointment he was a member of the Virginia Legislature, representing Fluvanna, Goochland, and Louisa Counties. By nature and training he was well qualified. His charming personality and his interest in people made him welcome all over Virginia. It was our privilege to take a great many trips with him in the course of his duties and we have first hand information on this point. He knew and loved Virginia and as we drove along the highways there was scarcely a house or a locality about which he did not have an interesting anecdote. In January 1950, the Secretary-Treasurership of the Society was added to his duties. Mr. Johnson's outstanding work in medical public relations was well known at the national level. As chairman of a Committee for finding locations for physicians in rural communities he outlined plans which have been followed for the past several years and which have gained for Virginia national recognition. At the present time the Committee is in touch with 60 physicians who are seeking locations.

Mr. Johnson married Miss Lucy Bralley, his Secretary, December 22, 1950. They were busily engaged in establishing a home near Hylas in Goochland County. Fortunately for the Medical Society of Virginia Mrs. Johnson continued in her secretarial position after marriage. We extend to Mrs. Johnson our deepest sympathy.

Floral Eponym

Tradescantia

John Tradescant, (1567?-1637)

John Tradescant (1607-1662)

Tradescantia is a genus of 40 species of American plants, mostly tropical. T. fluminensis is the well known wandering jew. T. virginiana is the common spiderwort.

John Tradescant, father and son, were English gardeners and travelers. They put together the earliest museum of which there is a full record. In 1637 the younger Tradescant was in Virginia getting plants and shells for the collection at South Lambeth. He published a catalogue in 1656 as *Museum Tradescantium: or a collection of rarities preserved at South Lambeth near London.* This collection passed in 1694 to Elias Ashmole who installed it at Oxford. "Remnants of this collection have been permitted to survive there. Among them are couple of fragments of what Tradescant called a 'Dodar from the Island of Mauritius; It is not able to flie being so big'."

THE PRESIDENT'S MESSAGE

THE Medical Society of Virginia has been quartered in the Richmond Academy of Medicine Building at 1200 East Clay Street, since September 20, 1932.

The offices were comfortable and the environment pleasant, but the functions and activities of the Society simply out-grew the available space.

Within the past few years, three or four people were forced to work in a room with supplies piled high along the walls, on the desks, etc. It simply became necessary to have larger quarters. Efforts were made to find rental space in that vicinity. The Council finally decided that it would probably be best in the end to purchase property to accommodate the headquarters offices. This was done and we moved into 1105 West Franklin Street, April 1.

In this, you have a piece of property and accommodations with which everyone who has seen it seems pleased. It is estimated that the property would bring the purchase price anytime we wish to sell.

The first official Council meeting in the new quarters was held Thursday, April 26. All members are urged when in Richmond to stop by and pay your official home a visit.

One of the first topics of discussion at the recent Council meeting was the question of "kick-backs" or rebates by optical companies to eye specialists, which had been given so much publicity by the Richmond and Norfolk newspapers during the past few weeks.

Dr. Malcolm H. Harris of West Point, Chairman of the Ethics Committee, reported to the council for that Committee April 26, on the committee's consideration of current references to kick-backs.

The Council approved that which had been done by the Ethics Committee and directed a continuation of its work of getting facts regarding kick-backs to be reported by the Committee to Council at its next meeting. If any member of the State Society has any knowledge of the existence of such an arrangement involving a physician, it is his duty to report the case to the Ethics Committee.

While in Richmond your president had the pleasure of attending a part of the first Scientific Assembly of the Virginia Academy of General Practice. They had a very fine and attractive program with excellent attendance. All present seemed to be very enthusiastic over the success of the first session.

This Assembly was patterned after the mid-year meeting of the A.M.A. which meets the first week in December of each year. This meeting was gotten up primarily for the General Practitioner. It was a brilliant success from the start. We wish for them a bright and glorious future.

While attending this assembly, I had the pleasure of talking with Mrs. A. B. Gravatt, Jr., Chairman of "Today's Health" from the Woman's Auxiliary. She stated she was very much discouraged over securing subscriptions. According to her list there are only 74 subscribers in the entire state. There should be at least two thousand. Some of you may recall that several years ago the A.M.A. requested the Woman's Auxiliary throughout the country to sponsor the sale of the old Hygeia, changed two years ago to "Today's Health".

This magazine should be on the reception room table of every physician. It is one medium we have of reaching the general public in language they can understand.

You may not like all the articles; you do not like all the chapters of any book or all the articles in any medical journal, but you like some, and benefit from reading many.

I heartily recommend "Today's Health". It costs only a dollar and a half. It will repay you many fold. Send in your subscription today.

C. L. HARRELL, M.D.

SOCIETY PROCEEDINGS

The Southwestern Virginia Medical Society

Held its regular Spring meeting on April 20, at the General Shelby Hotel in Bristol, with the president, Dr. J. P. King, presiding. There were forty-five present for the afternoon session and ninety-nine for the banquet. At the afternoon session the following papers were presented: Dr. O. O. Smith, Marion—"Arteriovenous Fistulae and Aneurysms of the Extremities"; Dr. W. R. Chitwood, Wytheville—"Shoulder-Hand Syndrome, Complicating Myocardial Infarction"; Dr. R. Earle Glendy, Roanoke—Moderator of a panel discussion "ACTH and Cortisone", participated in by Drs. Ernest Dixon, Don Greever, J. A. Chitwood, Andrew Giesen, W. S. Schiff, and N. J. Chew.

Following the scientific session, a short business meeting was held at which delegates and alternates to the coming meeting of the State Society were elected. A committee was appointed to the study and make recommendations for revisions of the by-laws for the society.

The Woman's Auxiliary of the Southwestern Virginia Medical Society met at the same time and the ladies attended the banquet.

A social hour preceded the banquet after which Dr. A. J. Oberlander of The National Life Insurance Company of Vermont, spoke on "Insurance Medicine". He was followed by Dr. Gordon McNeer of New York City, who spoke on "The Diagnosis and Treatment of Cancer of the Stomach".

The next meeting of the society will be held in September at Roanoke in conjunction with the Roanoke Academy of Medicine.

Dr. Richard C. Potter of Marion is secretary of the Society.

The Fairfax County Medical Society

Had its regular meeting on April 10th.

The chief topic of discussion was the Medical Plan for Falls Church and Fairfax County in the Civilian Defense Program. The Society approved the following basic operation plan: First Aid Stations are to be established throughout the city and county at strategic population centers; for example, schools and volunteer fire departments. These Stations will be manned by a medical assistant, 2 nurses, 2 nurses aides, 1 record clerk, 8 litter bearers, 4 messengers, and a messenger leader. Physicians or dentists will be dispatched to any of these Stations from a Headquarters Station located in the Falls Church Fire House. In addition Clearing Stations will be established to determine disposition of cases and to give more definitive care than at the Aid Stations. These will be manned by 2 physicians, 2 medical assistants, 15 nurses, 30 nurses aides, 1 record clerk, 4 litter bearers and 4 messengers.

The Society believes that because of the limited number of doctors available and the geographical pecularities of this area this plan will operate best, giving most coverage and allowing for quick movement of personnel to areas needed.

In addition to the above plan a committee has been established by the Society to draw up recommendations in regards to the continuance of normal medical care in the case of an emergency.

Claude E. Cooper, *Secretary*

A Clinical Session,

For the benefit of members of Mid-Tidewater and Northern Neck Medical Societies, under the auspices of the Department of Clinical and Medical Education of the Medical Society of Virginia, was held at the Yacht Club, Tappahannock, Virginia, April 11, 1951.

Classes began at 2:00 P.M. and continued to 9:00 P.M., with social hour and supper from 5:30 to 7:00 P.M.

The speakers for this occasion included Dr. Hudnall Ware, Jr., Dr. Edwin L. Kendig, and Dr. Thomas W. Murrell, Jr., all of whom are on the teaching staff of the Medical College of Virginia.

The combined attendance from both societies numbered thirty six. It was felt by all who attended that such clinical sessions are well worth while, in so far as it affords the physician who practices medicine in the rural area an excellent opportunity to keep abreast with modern methods of diagnosis and treatment of diseases he encounters during his days work.

Alexandria Medical Society.

New officers of this Society, who were installed on May 10th, are: President, Dr. Alfred Abramson; vice-president, Dr. C. A. Hudson; and secretary-treasurer, Dr. F. Preston Titus.

NEWS

The Virginia Academy of General Practice

Held its first scientific assembly in Richmond on April 26th and 27th. One hundred and ninety physicians from throughout the State were registered. Dr. Ira Hancock, Creeds, is president of the Academy, and Dr. E. E. Haddock, Richmond, was chairman of the committee on local arrangements.

Dr. Raymond B. Pinchbeck, Richmond, was the banquet speaker, his subject being "A Layman Looks at His Doctor". Dr. Philip Thorek, Chicago, Illinois, was the guest lecturer and his subject was "The Acute Abdomen". Others participating in the program were Drs. E. L. Kendig, Jr., Eric C. Schelin, Henry Spalding, Geoffrey T. Mann, Kinloch Nelson, C. E. Rodriguez, Charles M. Caravati, Virgil May, and W. T. Thompson, Jr., all of Richmond; Dr. William H. Kaufman, Roanoke; Drs. H. B. Mulholland, William Parson, and Walter Klingman, of Charlottesville; Drs. Margaret and R. E. Glendy, Roanoke.

It was decided to make this an annual affair and the next assembly will be held in Roanoke, May 6 and 7, 1952, with Dr. John O. Boyd, Jr., as general chairman.

The Virginia Society of Ophthalmology and Otolaryngology

Held its thirty-second annual meeting in Roanoke on May 12th, with the president, Dr. Charles A. Young of Roanoke, presiding. The guest of honor was Dr. Halstead S. Hedges, Emeritus Professor of Ophthalmology of the University of Virginia, who has been associated with the University since 1890. Dr. Fletcher D. Woodward, Charlottesville, gave the lecture in honor of Dr. Hedges. Dr. Louis H. Clerf, Philadelphia, guest, spoke on Paralysis of the Larynx. Dr. J. H. Dunnington of New York, the other guest, was prevented by flying conditions from being present. Case reports were given by Roanoke doctors as follows: Amblyopia Exsanguinata by Dr. William F. Hatcher; Rhinoplasty by Dr. Frederick D. White; and Development of Cataracts Following Electric Shock by Dr. Mortimer H. Williams.

Dr. Frederick Morrison, Lynchburg, who was unable to accept the presidency, was made an honorary life member as also was Dr. Hedges. Dr. R. H. Courtney of Richmond was elected President, Dr. A. D. Morgan of Norfolk, president-elect, Dr. H. B. Stone, Jr., of Roanoke, vice-president, and Dr. G. S. FitzHugh of Charlottesville was named secretary-treasurer. The next meeting will be at Staunton in May 1952.

The Psychological Reaction to the Unaesthetic Nose.

A paper with the above caption, by William Lawrence Gatewood, M.D., of Richmond, appeared in the May issue of the Monthly, but by error failed to appear in the index of that number. We regret this error but it will be listed in the general index.

The Neuropsychiatric Society of Virginia.

The Spring meeting was held on May 2, at the Keswick County Club, Keswick. The following officers were elected for the ensuing year: Dr. R. Coleman Longan, Jr., Richmond, President; Dr. James B. Funkhouser, Richmond, Vice President; Dr. Frank Strickler, Roanoke, Secretary-Treasurer; Dr. Walter O. Klingman, Charlottesville, Executive Officer; and Dr. Granville Jones, Williamsburg, Executive Officer.

The State Board of Medical Examiners of Virginia

Will hold its next meeting at the Richmond Hotel in Richmond, June 13, 1951. The examinations will be held in the same hotel June 14, 15, and 16th. All papers pertaining to the examination or to matters to be brought before the Board must be on file in the office of the secretary of the Board, Dr. K. D. Graves, 631 First Street, S. W., Roanoke, Virginia, not later than June 4, 1951.

News from the Department of Medicine, University of Virginia.

Dr. Lester A. Wilson, Jr., Instructor in Obstetrics and Gynecology, Duke University, has been appointed Assistant Professor of Obstetrics and Gynecology at the University of Virginia, effective May 1.

Dr. Wilson received his B.S. degree from the College of William and Mary, 1938, and his M.D. degree from the Medical College of South Carolina in 1942. After completing his internship at the Gorgas Hospital, Panama Canal Zone, and service

in the Army Medical Corps, he served as resident in obstetrics and gynecology at the Duke University Hospital until appointed to the faculty.

Edwin W. Pullen, Instructor in Biology, University of Virginia, has been appointed Instructor in Anatomy, effective September 1.

Mr. Pullen received his A.B. degree, 1943, from Colgate University, where for two years he held the President's Scholarship. He received his M.S. degree in zoology from the University of Massachusetts in 1948 and since that time has been associated with the University of Virginia as Service Fellow and Instructor in Biology.

Two Virginia physicians have been appointed to top posts in the Red Cross National Blood Program: Major General David Grant, Virginia Beach, and Dr. Russell Haden, Crozet. Dr. Grant was named Director of the American Red Cross National Blood Program and Medical Director of the American Red Cross. He succeeds Dr. G. F. McGinnes, Washington, who has resigned. Dr. Grant will direct all phases of the Red Cross blood program, which provides blood for military and civilian needs and civil defense. Dr. Haden has been named associate director of the ARC National Blood Program. Both Dr. Grant and Dr. Haden are graduates of the University of Virginia Department of Medicine.

Elected to the University of Virginia chapter of Alpha Omega Alpha at its April meeting were Dr. G. Slaughter Fitz-Hugh, Professor of Otolaryngology, University of Virginia, and Rear Admiral H. Lamont Pugh, Surgeon General of the Navy. Initiates from the third-year medical class were Charles Crowder, Jr., South Hill, Va.; Meade Edmunds, Jr., Petersburg, Va.; G. L. Gold, New York City; and Nelson Richards, Charlottesville, Va.

The 50th anniversary of the founding of the University of Virginia Hospital School of Nursing was celebrated in Charlottesville, May 23, 24, 25.

When the School was founded in 1901 the University Hospital was a building of 20 beds. Nurses attending the celebration were invited to tour the present Hospital of 500 beds. Two of the four graduates of the first class attended the banquet, alumnae meetings and graduation ceremonies.

President Colgate Darden awarded diplomas, May 25, to 60 candidates, who were presented by Dr. Vernon Lippard, Dean of the Department of Medicine. Dr. Richard Ackart, Director of the University Hospital, presented the hospital alumnae pin.

King's Daughters' Hospital Opened.

Staunton's new King's Daughters' Hospital was opened on April 15th. The modern hospital at the northern outskirts of the City replaces an outgrown predecessor which had served the community since 1905. It was built at a cost of $2,500,000 and is a 117-bed structure. A feature of the new hospital is an outpatient department which contains the following clinics: eye-ear-nose-throat, dental, physical therapy, genito-urinary, basal metabolism, electrocardiogram and pneumothorax. Also included are fully equipped operating rooms, highly technical laboratory facilities and an x-ray department. There are two major operating rooms, two delivery rooms and two labor rooms, and the nursery is designed to accommodate 28 babies.

J. Shelton Horsley Memorial Lecture.

The fifth annual J. Shelton Horsley Memorial Lecture was given at the Richmond Academy of Medicine on April 24th by Dr. Frank E. Adair of Memorial Hospital, New York City.

The Virginia Radiological Society

Held its annual meeting at McGuire Veterans Hospital in Richmond on April 23rd, with an attendance of 75 doctors. Dr. Aubrey O. Hampton, Washington, D. C., delivered the principal address on "Roentgen Manifestations of Acute Pulmonary Disease"; Dr. Samuel Richman, Richmond, read papers on "Roentgen Findings in Early Carcinoma of the Lungs" and "Single Dose X-Ray Combined with Nitrogen Mustard Therapy in Lymphomas"; and Dr. William J. Barry, Jr., Richmond presented a paper on "X-Ray Findings in Acute Pancreatitis".

Dr. William P. Gilmer, Clifton Forge, is president of the Society, and Dr. P. B. Parsons, Norfolk, is secretary.

The Virginia Obstetrical and Gynecological Society

Held its 1951 Travel Clinic in Chicago, April 9-10. The program was put on by Dr. Frederick Falls of the University of Illinois and Dr. Herbert Schmitz of Loyola University.

Present were the following: Dr. William Bickers, Richmond; Dr. Harvey Bland, Newport News;

Dr. Milton Bland, Norfolk; Dr. Chester Bradley, Newport News; Dr. William Byrd, Norfolk; Dr. Adrien Carson, Jr., Richmond; Dr. William Cox, Richmond; Dr. Alfred Garnett, Norfolk; Dr. Pembroke Grove, Winchester; Dr. Paul Halter, Arlington; Dr. Gwendolyn Hudson, Richmond; Dr. John Kight, Norfolk; Dr. John Nokes, Charlottesville; Dr. Harrison Picot, Alexandria; Dr. John Saunders, Lynchburg; Dr. William Thornton, Charlottesville; Dr. William Varner, Franklin; Dr. Meyer Vitsky, Richmond; Dr. A. D. F. White, Lynchburg; and Dr. James Whitfield, Richmond.

The following guests were present: Dr. Thomas Bell, Staunton, and Dr. Charles Merritt, Charlottesville.

The American Gynecological Society

Held its Diamond Jubilee meeting on May 7-9, at the Waldorf-Astoria in New York City. Dr. Walter Dannreuther of New York City was elected president and Dr. John I. Brewer of Chicago secretary. The next meeting of the Society will be held on May 12, 13 and 14, 1952 at Hot Springs, Virginia.

The Virginia Society for Pathology and Laboratory Medicine

Held their annual meeting at the Medical College of Virginia, Richmond, on Saturday, March 10. The Society unanimously voted to re-state the position of the members in providing free laboratory service for those patients unable to pay.

Officers elected for 1951 are: President, Dr. William D. Dolan, Arlington; Vice-President, Dr. Arnold Rawson, Norfolk; and, Secretary-Treasurer, Dr. Martin L. Dreyfuss, Clifton Forge.

Dr. S. D. Gardner

Has been appointed Henrico jail physician to replace Dr. A. P. Traynham who resigned after twenty-seven years of service. Dr. Traynham plans to establish a practice in Sweet Springs, W. Va.

Dr. R. Finley Gayle, Jr.,

Richmond, was re-elected secretary of the American Psychiatric Association at its recent annual meeting in Cincinnati.

For Sale.

Ideal location for physician desiring light practice, at Ceres, Bland County, Virginia. A new seven room office-apartment, one floor, well constructed, all modern conveniences. One physician in county at present. Located in beautiful farming valley with excellent hunting and fishing. Sacrifice price for quick sale. Write P. O. Box 17, Spotsylvania, Virginia. (*Adv.*)

Office Space for Rent.

Doctor's or Dentist's office available immediately, corner of Harrison and Franklin Streets, Richmond. Call 5-4387. (*Adv.*)

Locum Tenens Wanted.

July or August, general practice or internal medicine, graduate of Medical College of Virginia, university internship, 21 months Army, 1 year residency in internal medicine. Married, no children, car, highest references. Address "Locum Tenens", care the Virginia Medical Monthly, 1105 West Franklin Street, Richmond 20. (*Adv.*)

OBITUARIES

Dr. Estridge Peterson White,

Widely known physician of York County, with his home at Odd, died April 19th, having been in ill health for two years. He was sixty-seven years of age and a graduate of the Medical College of Virginia in 1913. Dr. White was a former member of the York Board of Supervisors and retired as president of the First National Bank of Poquoson in 1950, having served in that position for twenty-five years. He served for many years as roentgenologist at the Dixie Hospital, Hampton. Dr. White had been a member of the Medical Society of Virginia for twenty-six years. A son, Dr. Stanley Wise White of Poquoson, survives him.

Dr. Herbert Wilson Rogers,

Prominent physician of Norfolk, died May 8th. He was born in Nassawadox in 1892, and received his medical degree from the University of Maryland in 1916. Dr. Rogers had served for many years as a member of the Norfolk School Board and was active in civic affairs. He has been a member of the Medical Society of Virginia for thirty years. His wife, two sisters and four brothers survive him.

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GUEST EDITORIAL

Gout

GOUT is one of the oldest diseases recorded. Its treatment by Colchicine is one of the most dramatic and specific seen in medicine. Neither the cause of Gout nor the action of Colchicine is understood.

There is much romance and many interesting stories associated with the disease. It was thought to attack only the wealthy and high livers, as a story from the Planters and Mariners Compendium will attest. This Compendium was published in 1812 and presented by Mr. Jefferson, to whom it was dedicated, to my great-grandfather:

"An English nobleman, after twenty years of riotous living, awoke one morning in the torments of the Gout. As he lay writhing with pain, his servant ran upstairs to him with great joy in his countenance: 'Oh! sir, good news! Good news! There is a famous Gout doctor below, who says he will venture his ears, he can cure your honour in a week!' 'Aye! That is good news indeed, Tom: Well, run my good boy and put up his carriage and horses, and treat the doctor like a Prince.' 'O! sir, the gentleman has no carriage and horses, I believe he walked afoot.' 'Walked afoot! What! Cure the Gout and walk afoot! Go down, Tom, go down, and instantly drive the rascal out of the house, set all the dogs upon him, do you hear? The lying varlet! Why, if he could cure the Gout, he might ride in a richer carriage than His majesty!' "

On the other hand, during the days of the W. P. A., the incidence of Gout was seen to increase in the poor men. So many men were paid for doing nothing that they had time to dissipate. The disease was sometimes called "Roosevelt's Disease".

The Virginia ham is said to owe its high flavor to the sodium urate deposits in the gouty swine. The white flecks in the muscles are allantoin, a product of uric acid metabolism.

Gout occurs over nine times as often in men as it does in women. Men with the disease are usually sexually potent until rather late in life. They even become quite proud of their disease. It has been suggested that a "Podagra Club" be founded to acquaint the gouty gentlemen of New York with each other. Strangely enough, there are a large number of doctors who have this disease.

Heredity plays a part in the development of gout. Women of gouty parents frequently run a high uric acid but do not develop the disease. We have, at present, a family of four generations, in which the great-grandson, aged twelve, has tophi and a high blood uric acid. His mother has a high blood urate but no evidence of Gout.

When Gout is seen in women, they frequently have some type of blood dyscrasia as well, such as pernicious anemia, lymphatic leukemia, or polycythemia vera. It is also seen in Lesbians.

An interesting differential point between Gout and Rheumatoid Arthritis is the reaction of the two diseases to various conditions. Acute Gout is precipitated by Jaundice,

whereas Rheumatoid Arthritis is ameliorated by the disease. General anesthesia will precipitate Gout very quickly, while Rheumatoid Arthritis is frequently benefited. Certain emotional disturbances will benefit Rheumatoid Arthritis but will precipitate Gout. The administration of gold has been known to precipitate gouty attacks, yet gold is one of the standard treatments for Rheumatoid Arthritis. On the other hand, Cortisone and ACTH both seem to have an ameliorating effect on the two diseases. Colchicine, the drug which has the most striking effect on Gout, has no effect on Rheumatoid Arthritis.

For a number of years, drug houses have been making a preparation for the intravenous treatment of Gout. This is a 20 cc. ampoule which contains: Colchicine—1/100 grs.; Sodium Salicylate—15½ grs.; Sodium Iodide—15½ grs. The preparation has been used with success. There are those, however, who are sensitive to Iodide, Salicylates, or both. The ampoule meniscus is larger and necessitates the use of a 20 cc. syringe. Also, if split outside the vein, great pain and necrosis may result. We have seen gastro-intestinal bleeding from its use. The Sodium might be contraindicated in some cases of Gout complicated by heart and kidney disease. Recently Dr. Rice, of Eli Lilly Company, has made a 1 and a 2 cc. ampoule of Colchicine—1/100 grs. This has been given intravenously to twelve patients with acute Gout. The results have been excellent in all. The ampoule can be given undiluted, or in 500 cc. of 5% glucose. Swelling, pain, and inflammation have been seen almost to disappear within fifteen minutes of the termination of the injection. There is no diarrhea or nausea as is seen in the oral administration of Colchicine. One or two injections will usually suffice in acute Gout. If the disease is longstanding, several injections are necessary, and in some cases of chronic Gout, with acute exacerbation, Colchicine seems to have no effect. The drug cannot be used over too long a period, because it may cause liver damage. We have seen no untoward reactions with the small ampoule.

JOHN STAIGE DAVIS, JR., M.D.

Dr. Davis is chief of the Arthritis Service at St. Luke's Hospital, New York City.

Floral Eponym

Carpenteria

WILLIAM MARBURY CARPENTER (1811-1848)

Carpenteria is a single shrub of the family Saxifragaceae. It is a native of the southern part of the Sierra Nevada Mountains in California. It differs from the mock-orange only in technical characters and in being evergreen.

Dr. Carpenter was a native of St. Francisville, La. He died in New Orleans in 1948.

TREATMENT OF FRACTURES BY THE GENERAL PRACTITIONER*

O. Anderson Engh, M.D.,
Arlington, Virginia.

A great percentage of fractures can be treated satisfactorily by the general practitioner. For some reason, however, he has been referring many of them to a specialist in recent years. The reason for such referral apparently is his lack of confidence in treating fractures plus a fear of litigation. The purpose of this talk is to assure the general practitioner that his fear of mismanagement, litigation or improper handling of these cases is unnecessary. Furthermore, with the thousands of physicians entering the military service there is a greater responsibility on the general physician to handle these cases. It is particularly true in rural areas.

The best way to give the general practitioner confidence is to review the treatment of fractures in various parts of the body. An attempt will be made to avoid special or spectacular methods and stress the more simple and practical ways of handling them. Some mention will be made of plates, nails, wires, pins, etc., but this will not be for the purpose of recommending the procedures *per se,* but rather to acquaint the physician with the procedures. During the course of the discussion certain dangers will be mentioned from the improper handling of cases. This is most essential since one is apt to forget certain cardinal principles and therefore jeopardize the involved part.

We will start with fractures of the clavicle. This is a fracture which the general practitioner frequently misses. It occurs often in infants and one may fail to examine the collar-bone in these patients. The fact that the child does not move the arm causes one to suspect that the trouble is in the arm or forearm and on many occasions an infant has been taken to a specialist having had X-rays of everything except the clavicle. Fortunately these fractures heal readily and, although it is recommended that as good alignment as possible be obtained, it is not so essential as in many other fractures. A "T" splint or a "figure of eight" elastic bandage or a grenadier jacket are all satisfactory ways of treating this condition. I prefer plaster of paris, even on infants, extending as low as the umbilicus and just above the elbow on the involved side. In treating this fracture, one must be sure to avoid pressure in the axilla which can occur with any bandage drawn tightly into the armpit.

Fractures of the upper humerus and about the shoulder joint: One of the most satisfactory splints is the Velpeau splint. Since this fracture occurs frequently in old people, a satisfactory result is usually obtained. The weight of the extremity even in the Valpeau splint usually produces a fair alignment. Another relatively simple method is the hanging cast which is literally a heavy cast applied from the upper arm to the hand with the elbow at a right angle. The weight of the cast usually pulls the fracture into good position. An open reduction is required only when a fair alignment has not been obtained and it is rarely necessary on aged people. Fractures of the shaft of the humerus are often treated by the hanging cast. If fair position is obtained, a shoulder spica cast can be applied.

Fractures of the elbow are dangerous. Most of these are supracondylar. These can cause the general practitioner much difficulty because he is apt to apply a tight splint or cast. A posterior mold is one of the best ways of treating this condition. An attempt should be made to correct the malposition but sometimes it is necessary to flex the elbow more than a right angle. If this is done, the splint which is applied must be loose so as to avoid pressure. An elastic bandage is preferred to ordinary cotton bandage in these cases since a cord-like pressure can usually be avoided.

Fractures of the midportion of the forearm are very difficult and may require open reduction. However, if a distracting force is applied for a considerable period some approximation will be obtained. Healing will usually take place, but the mistake to be avoided is an inadequate period of immobilization. It is often necessary to maintain the forearm in the splint for two to three months.

One of the most common fractures is the Colles' fracture. These are frequently impacted since the radius normally extends farther distally than the

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 8-11, 1950.

ulna. Such a position must be regained after reduction. If the impaction has not been satisfactorily reduced, the lower ulna articulates with the carpal bones, causing a painful condition. For this reason ulnar deviation is often required. This is frequently more essential than the volar position which is stressed. One of the common complications of fractures about the wrist is causalgia. This is a reflex sympathetic dystrophy in which the patient suffers severe pain, burning, swelling and tenderness. A decalcification occurs in the bones in the forearm and the hand. It is necessary to remove the splint at once and apply one more loosely. This condition is often caused by too forceful manipulation of the fracture and often by placing the hand in a position in which there is restriction of circulation.

In fractures involving the metacarpal bones, the maintenance of the convexity of the metacarpals is essential. The use of a roller bandage in the hand with the fingers flexed over it usually gives a good result. In fractures of the fingers the tongue depressor is usually satisfactory, although fractures of the thumb require better reduction as it is so essential for good function of the hand. Bennett's fracture of the proximal portion of the first metacarpal is one which causes disability unless completely reduced. Adhesive traction to the thumb or the insertion of a small wire through the distal end of the thumb, keeping the latter in abduction, is recommended.

Fractures of the pelvis usually do not cause complications but one must always be cognizant of the possibility of genito-urinary disturbances. The use of a firm bed with sand bags to the side of the pelvis usually produces a good result and a hammock is rarely necessary. Fractures of the hip require immediate traction and intertrochanteric and subtrochanteric fractures usually are reduced by abduction and slight internal rotation and held in a hip spica cast. This procedure is not recommended as a rule since internal fixation with a Smith-Petersen nail or other form of internal fixation gives better results. Fractures of the shaft of the femur will usually heal with adhesive traction or skeletal traction using a Thomas splint. Alignment can be obtained by applying pressure where it appears indicated. Fractures about the knee joint, if not displaced, can be placed in a cast. The hip spica is preferred. If there is displacement of the fragments, it is recommended that an open reduction be performed since considerable deformity results with restricted motion, if this is not done. Fractures of the leg usually can be manipulated into satisfactory position and splints applied. Plaster of paris fixation is recommended. Fractures about the ankle are very frequent and are usually called Pott's fractures. It is very essential that the ankle mortise be maintained. These fractures are usually reduced by inverting the foot and maintaining pressure over the malleoli to tighten the mortise. Some form of internal fixation using an open reduction is occasionally necessary. Fractures of the foot usually respond satisfactorily to manipulations and the application of a cast.

Inasmuch as it is necessary to apply plaster of paris frequently in fractures of the lower extremities sufficient padding, using felt, is required. One of the most common complications is an ulcer over the heel. If the patient complains of even a slight amount of burning this portion of the cast should be removed since it can produce a pressure sore. This may demand skin grafting. One of the other complications of traction and splints to the lower extremities is in the region of the fibular head. Pressure on this area will produce a peroneal paralysis which is transient ordinarily but in some cases may be permanent.

In fractures of the spine, hyperextension is usually indicated. At the time the patient is first seen he should be maintained in this position unless it produces some evidence of cord or nerve pressure. A firm bed, a firm mattress or the insertion of boards between the springs and mattress is essential. One or two pillows should be inserted underneath the area of fracture. In the cervical spine a small roll can be inserted. Uncomplicated fractures of the thoracic and lumbar spine can usually be treated by the application of a cast or brace within a period of a few weeks, although there is a tendency recently to permit these patients to walk without some form of support. It is recommended that they wear a body cast for a period of approximately three months and a corset for an additional three to six months.

This is a simple review of methods which are used at this time and in many respects do not differ from what was taught twenty-five years ago. It is most essential that one recognize the principle involved and if this is done one is not apt to make any serious errors.

In conclusion, it is felt that the general practitioner can satisfactorily treat a great percentage of fractures if he follows fundamental principles. Most fractures can be treated by simple measures, avoiding forceful manipulation and requiring adequate but not restricting immobilization.

Discussion

Dr. Charles J. Frankel, Charlottesville: I think Dr. Engh is to be congratulated for several things. The first is his humility in coming down off the pedestal which the usual orthopedist or the usual specialist occupies.

I agree with Dr. Engh in most respects, but I disagree in several. First, I think he has oversimplified the problem. The handling of fractures is not quite as simple as Dr. Engh has told you. There are many complications to fear, and I am afraid that he has a great deal more faith in human nature and in some people than I have. I think if you will examine the legal records you will find that as the economic cycle changes people have more and more tendency to sue. If times are good people do not sue. If we are to continue to have the "Fair Deal" in Washington, I think we can expect an increase in suits. So we must be careful about leaving ourselves vulnerable to medicolegal action.

It is perfectly true that about ninety per cent of the fractures can be handled by conservative methods. About ten per cent require operative procedures. Of the ninety per cent, I should be inclined to tell the general practitioner to sit down and classify the type of fractures that he thinks he is capable of handling. I do not think he ought to try to cover the whole field; there are many fractures that he ought not even to bother about. Among those fractures are fractures about the hip. It is perfectly true that the general practitioner can handle intertrochanteric fractures, but the mortality among these aged people is terrific. The fracture may heal, but the patient may not live long enough for it to heal. The incidence of pneumonia and other complications is fairly high among elderly patients who are kept in bed and have not the advantages of good nursing care.

I think one of the most common mistakes made not only by general practitioners but by specialists is the failure to take X-rays in proper sequence. There must be, for diagnostic reasons and medicolegal reasons, an X-ray before the fracture is set, an X-ray after the fracture is set, and then a follow-up X-ray a week or ten days after the fracture has been set. That does not mean you have to take pictures of the nondisplaced fractures, but for the common type of displaced fracture you had better check a postoperative film in about a week or ten days. Make that a routine. If you are going to handle fractures, handle them by routine, so you can know what to do.

A second mistake, I think, is failure to interpret X-rays. Those of you who handle those fractures sometimes are called upon to interpret your own X-rays, and with lack of experience you may misinterpret them. I should like to say to you, if you are in an area where you cannot get expert X-ray interpretation, don't hesitate to take an X-ray of the normal side. You may have to take an extra film, but then you have the X-ray of the normal side for comparison.

The next mistake is under-immobilization or over-immobilization. I have seen simple fractures of the elbow in children immobilized for as long as thirteen weeks, resulting in ankylosis. It is true we get ankylosis sometimes without too long immobilization, but the chances for it with over-immobilization are greater.

Another mistake on the part of general practitioners is over-optimism. There is a tendency to tell parents that everything is going to be fine. On occasion that is justified; on other occasions it is not justified. Where you have involvement of epiphyses or joints, I do not think you are justified in telling patients that everything will be all right. A patient with involvement of the epiphysis or involvement of the joint may not have any bad results at all, but he may develop arthritis at a later date.

In setting fractures it is necessary to have assistants. That is an advantage we have in the hospital. It is almost impossible to do a good job if you are going to do it alone and simply have a nurse give the anesthetic for you. If you can get any help, get it; you can tell the other person what to do. But don't try to do it alone.

I cannot quite agree with Dr. Engh when he suggests that you handle supracondylar fractures. If a supracondylar fracture is displaced, I think you had better get rid of it. There is an old German proverb which says: "It is better to be a barking dog than a dead lion."

Plaster of paris is not a very difficult thing to apply, but there are certain fundamentals which you must master. You must know how to put it on; you must know that it has to go above or below the joint; you must know that certain points have to be padded; you must know that certain joints have to be immobilized. Those things are available to us in textbooks, but we get so busy we do not look them up. Some of us hesitate to look up things in books, but I think that is wrong. I certainly look into an anatomy textbook before I go into the operating room.

When the general practitioner turns a case over to the specialist, I think he ought to keep an interest in that case. I do not think the specialist ought to take over a case and forget about the general practitioner's interest. I think that the follow-up and the end result of the case ought to be gone into with the general practitioner, so that both he and the specialist maintain a mutual interest in the patient.

One other thing Dr. Engh mentioned is the handling of fractures of the scaphoid, in the wrist. I should like to impress upon you the necessity of taking the X-rays in four views. You cannot in most cases diagnose simple fracture of the scaphoid by taking anteroposterior and lateral views. You must take four views; and you will find, in taking those four views, that about thirty per cent of the fractures will become visible, whereas they are invisible in the average anteroposterior view. There again you must rely on your interpretation of the X-rays.

If you are going to handle difficult fractures, then you must be ready to accept the responsibility. I think that if you handle these with the conservatism, which is the rule, you will get better results than if you try to follow the tendency toward the use of hardware. Most of the men who finished in Army hospitals came out with almost a savage lust for the use of hardware and metal. That may be all right in the Army hospital, where the patients have close supervision; but it is not so good in the average civilian hospital. We believe in our hospital that conservative measures can be used in over ninety per cent of fractures.

I think Dr. Engh is to be congratulated upon a very clear and concise statement of the fundamentals in the treatment of fractures.

DR. MARCELLUS A. JOHNSON, JR., Roanoke: I just want to bring out a couple of points in the discussion. I enjoyed the doctor's paper. Maybe I am not qualified to talk about it. In our clinic, we have over eighteen hundred fractures a year. Many things stand out very prominently.

About the general practitioner, I deal with a lot of them, and I should like to say this. He has got to use the same judgment as he uses about everything else. He becomes only an A & D officer, as we said in the Army—an admitting officer—if every time he has a pain in an abdomen he refers it to the surgeon and every time he has a fracture he refers it to the orthopedic surgeon. I think the general practitioner is to be trusted to use judgment in a bone case just as he is in an abdominal case, and that he knows when he ought to get help. Otherwise, he becomes only an A & D doctor.

We are considered by the courts as medicolegal experts. Having passed the State Bar examination of Virginia, there are a number of things I have picked up in court. You would be surprised to find how many times doctors are sued or threatened with suits. Most of the cases against doctors are because of ill-timed remarks. I would call to your attention that we all have to be considerate of the other man. Last week I had two fracture cases that an orthopedic man had set, Colles' fractures, comminuted, very severe. They were not in good position. We, at our clinic, check practically all fractures every two weeks. Key and Conwell and other good books will tell you that two out of twenty will slip. These two fractures were set by orthopedic men, and the X-rays are on record and can be shown. They were not in good position. I had a good out, and that is that some do slip, even if correctly set. But I think these two slipped because the orthopedist left it to his assistant to put on the cast and the cast was not put on above the elbow.

Every man who belongs to the medical profession ought to be thoughtful and very careful about what he says, and should not make thoughtless remarks. A doctor has to use good judgment in a bone case, just as he has to in an obstetrical case or in abdominal pain or head pain, and he should be very courteous, and very thoughtful of his brother doctor.

DR. MARTIN B. HIDEN, Warrenton: I am a small-town surgeon, and I have to handle some fractures. I believe that the general practitioner and the general surgeon and all the rest except the orthopedic surgeon would be better off if they did not handle fractures, because they have more dynamite in them and are more dangerous than any other class of practice I know. If all of us who are not orthopedic surgeons could get by without handling any fractures whatever, we would benefit. When it comes to handling fractures I am in the same class with the general practitioner; I do not know any more about it than the general practitioner, although he thinks I do. If the orthopedist could handle all of them we should all be happier because some of the simplest fractures, or what look to be some of the simplest fractures, can cause an awful lot of trouble.

When I suggested this title, I wanted the orthopedist not to tell us what to treat and what not to treat, but what to do and what not to do until we can get help.

One thing I might mention is head injuries. It seems to me that one of the things the family of the patient always emphasizes is, "Is the skull fractured?" If you can tell them that the skull is not fractured, then they are apt to think that the patient is not injured very much. But the damage to the brain is what counts, not the damage to the skull. There can be fracture of the skull without symptoms. Tell the insurance people and others about the damage to the brain, and minimize the fracture of the skull. Talk in terms of damage to the brain—laceration, bruises, or whatever you have. Don't let them get the idea that because the skull is not fractured it may be very much simpler, or that if it is fractured it may be more grave. It may be that you cannot see fractures at the base of the brain, and it does not make a great deal of difference whether you do or not.

The same thing applies to fractures of the spine. Emphasize the damage to the spinal cord rather than the fracture or dislocation of a cervical vertebra. Sometimes that is very hard to diagnose. It may be that you cannot see the fracture. It does not always make a great deal of difference. What you are up against is damage to the cord.

As to fractures in general, I cannot see where extension would do any harm in the majority of cases. It often does a great deal of good, and it is a great thing for the patient from a mental standpoint, because you are doing something. In a great many cases of dislocation, if you can get rid of the spasm in the muscles by extension, the dislocation will probably go back under its own power.

I do not always know how to put my splints on, or how to put my casts on correctly. Sometimes I get into more trouble with the circulation than I do with the fracture. Either I leave the cast on too long, or I have it a little too tight, or I do not start passive motion soon enough. I do not get contractures, but I get a stiff hand in Colles' fracture and it has that glazed look; and it takes six months to get well instead of six weeks.

The way we handle fractures in my territory is that if a general practitioner gets a fracture which he thinks is simple enough, he treats it himself—and usually treats it very

well. If he had a list of "Do's" and "Don'ts", it would help him. If he suspects that he should not treat it, then he calls me, and I usually call an orthopedic surgeon. I wish I could call him on all of them.

When it comes to a suit or a bad result, people ask, why did you not call in an orthopedic man, or, why did you not call a specialist. The implication is that if you had called a specialist you would probably have gotten a good result. Maybe you would, or maybe you would not. Why didn't you call him if you thought a bad result was possible or probable? The reason you did not call him is because you wanted to hold on to that patient or wanted to save the patient expense. Neither of those is a very good reason.

If general men want to avoid trouble, they should treat as few fractures as possible, and, when they refer them to me, I think I should treat as few of them as possible. I had better refer them to an orthopedic surgeon. The orthopedist should take the general practitioner into his confidence and tell him what to do and what not to do. Tell him what to do until he can get an orthopedic man there. On Saturday afternoon or Sunday you have a difficult time getting an orthopedist, because he is out playing golf or doing something else. If you have a charity case, I think I can treat it better than their interns.

Dr. Engh, closing the discussion: So far as the general practitioner is concerned, I think his judgment is good enough that if he thinks he is going to run into trouble he will usually call for help. This talk today was given with the hope of stimulating interest in this subject among general practitioners. That is the only way that the general practitioner can continue to make progress, and also to review the principles from time to time.

Sponge Biopsy.

Sponge biopsy, a newer method of cancer detection, has proved valuable in discovering cancers of the cervix, rectum, mouth and skin. It is described by Dr. Sidney Gladstone of New York in the April 21st *Journal of the American Medical Association.* Dr. Gladstone is associated with the New York Polyclinic Medical School and Hospital.

The procedure is fairly simple. A gelatin or cellulose sponge is rubbed on a suspected lesion. By rubbing, small particles of tissue are picked up by the sponge. These particles are then examined by a pathologist for possible cancer cells.

"For the detection of early cervical carcinoma [cancer of the lower part of the womb], the method of sponge biopsy was found to be very reliable and distinctly superior to the method of surgical biopsy as usually performed. [Surgical biopsy involves removal of a small piece of suspected tissue for examination.] Because of the absence of distinctive visible changes, it is not surprising to learn that a single small block of tissue removed by surgical biopsy from the most favorable site will miss half these lesions."

Dr. Gladstone has done over 1,200 sponge biopsies in two years. In a series of 641 women examined for cancer of the cervix uteri, he found 16 cancers. Nine of these were suspected because of ulceration, bleeding or both. Seven cancers were early, however, showing no symptoms. Sponge biopsies on 32 patients with ulcerating lesions of the rectum showed cancers in 15.

"These findings were all confirmed by surgical biopsy, surgical specimen or operative findings. In two cases with correct diagnosis of cancer by sponge biopsy, the surgical biopsy specimen had failed to include cancerous tissue and was falsely interpreted as negative. In our experience, sponge biopsy has succeeded in collecting diagnosable cancerous tissue in all cases of cancer of the cervix and rectum."

Dr. Gladstone further reports 40 sponge biopsies on ulcerating lesions of the mouth, revealing 12 cancers, and 22 sponge biopsies of the skin, indicating 11 cancers—all confirmed by surgical biopsy.

INTESTINAL OBSTRUCTION*

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Intestinal obstruction is of paramount importance to the physician and surgeon alike. One who is confronted with a patient with acute abdominal pain and acute constipation, nausea and vomiting and with high-pitched tinkling sounds and audible peristalsis, must alert himself to the many conditions that produce one or more of these symptoms. However, when these symptoms are noted, obstruction must receive first consideration and prompt treatment must be instituted. In less acute cases, more time can be taken for a more complete study. In the proper approach to these cases, sign posts may be noted which could lead to the diagnosis of many conditions. Following a careful history and physical examination, other studies should be made, including blood and urine examinations. A scout film or flat plate of the abdomen may reveal a dilated, ballooned colon so characteristic of a volvulus and the diagnosis can be confirmed by a barium enema; or it may show fluid levels or step ladder dilatations, presenting the characteristic bowel pattern of small bowel obstruction; or viscera may be found in the chest, indicating a diaphragmatic hernia. If these are not observed, suggesting an obstruction, calciferous deposits may be seen in a dermoid cyst of the ovary or fibroid uterus, or shadows may be seen suggesting a fecalith in the appendix or stones in the biliary or genito-urinary tract which may lead to the correct diagnosis. Gas shadows under the diaphragm in a patient with abdominal pain, associated with shoulder pain, will confirm the diagnosis of a perforated peptic ulcer. Blood and urine studies may reveal findings suggestive of certain constitutional diseases of interest to the internist and may assist the surgeon in evaluating the risk. An electrocardiogram on a patient around forty years of age or older may give evidence of coronary disease.

It is impossible to cover the entire subject of intestinal obstruction, so I shall only attempt to present certain points that have proven of value to me and trust that by so doing it will serve to renew your interest in this subject. In presenting this paper, it is not my intention to throw out a barrage of scientific terms and build up an oral fortification behind which to hide my ignorance, nor to speak as an authority; rather it is as one who has struggled with these patients for more than 25 years and have watched the mortality rate fall from more than 50 per cent to less than 10 per cent by the use of improved methods. During the first five years of this period, we still had to use impure rubber tubing for intravenous therapy, with untoward reactions. During the next ten years chemically pure tubing was available and we had fewer reactions. For the past ten years the pharmaceutical houses have supplied us with disposable containers and reactions have been rare, unless we become over anxious and literally drown a patient with saline or allow it to run in too fast on a hypertensive patient. This is less apt to occur, however, in treating obstruction, due to the rapid loss of chlorides and fluids. During this last period, the Levin and the Miller-Abbott tubes have come into more general use and have been made more efficient by the Wangensteen negative pressure apparatus. We must not forget that neither vomiting nor the Miller-Abbott tube can empty the contents of a closed loop of obstructed bowel.

Biochemists have given us a workable knowledge of the electrolytes and have shown us the value of cross matching blood, Rh factors and of the electrolyte fluid balances. Our technicians have become so efficient in this work that we can usually keep these elements around a normal base level by intravenous therapy. This teamwork, together with the sulfonamides and antibiotics have contributed to better surgery and reduced mortality.

The responsibility lies with the practitioner who first sees the patient with symptoms of an acute intestinal obstruction. It is he who may sign the death warrant, by giving narcotics and cathartics, whether he signs the death certificate or not. Procrastination is more dangerous in these cases than exploration, and may mean death. These patients should be immediately referred to a competent surgeon. Any lapse of time should be utilized by x-ray and laboratory

*Read before the annual meeting of the Medical Society of Virginia at Roanoke, October 8-11, 1950.

studies and securing sufficient compatible blood, or having suitable donors standing by, and giving intravenous glucose in saline and starting negative pressure.

Neurotic females should be viewed with a critical eye. One patient in my experience, a normal, though apprehensive girl with all the classical symptoms of an acute obstruction, had a copious evacuation in bed just as the stretcher came to take her to surgery.

A similar patient with a history of four previous abdominal operations was being observed. She wished to change surgeons to "get something done", was operated upon by one of my colleagues but no obstruction was found. These neurotic patients rarely have obstruction and are not benefited by surgery, which usually adds to the confusion of the next surgeon.

Types of Intestinal Obstruction

1. Mechanical obstruction
   (1) Acute
2. Paralytic obstruction
   (2) Chronic
   (3) Chonic, becoming acute

Causes of Acute Intestinal Obstruction

(A) Obstruction with strangulation (62%)

1. External hernias (45%)
2. Internal hernias (2.5%)
3. Intussusception (15%)
4. Volvulus (2.6%)
5. Bands (11.4%)
   (a) Peritoneal adhesions
   (b) Meckel's diverticulum
   (c) Appendix
   (d) Great omentum

(B) Obstruction without strangulation (38%)

6. Adhesions (7.4%)
7. Congenital malformations (.6%)
   (a) Atresia of small gut
   (b) Atresia of large gut
   (c) Imperforate anus
8. Impaction of gall stones (.7%)
9. Impaction of foreign bodies
10. Impaction of round worms
11. Growths of intestines
12. Diverticulitis
13. Fibrous strictures
14. Pressure from without
    (a) Tumor
    (b) Endometriosis

Causes of Chronic Intestinal Obstruction

A. Extrinsic
   1. Adhesions
   2. Pressure from without
      (a) Tumor
      (b) Endometriosis
B. Intrinsic
   3. (a) Inflammatory
      (b) Traumatic
      (c) Neoplastic
   4. Carcinoma of colon
   5. Carcinoma of rectum
   6. Chronic diverticulosis
   7. Chronic intussusception
   8. Chronic volvulus
   9. Ileocecal tuberculosis
   10. Ileocecal actinomycosis
   11. Fecal impaction
   12. Hirschprung's disease
   13. Chronic regional ileitis

Causes of Paralytic Obstruction

(A) Paralytic Ileus
   1. Inflammatory: as peritonitis
   2. Toxic: as uremia, lead poisoning
   3. Traumatic, postoperative
   4. Neuropathic:
      (a) Lesions or pressure on spinal cord.
      (b) Lesions or pressure on peripheral nerves.

(B) Mesenteric vascular occlusion
   (1) Embolism or thrombosis-superior mesenteric vessels
   (2) Portal cirrhosis and infection.

Symptoms of Acute Intestinal Obstruction

1. Pain is severe, with abrupt onset, becoming colicky and continuous. The pain may be in the back in cases of volvulus of the small bowel.
2. Nausea and vomiting, repeated at first; later, it is less frequent and fecal.
3. Constipation is complete after the first half hour. In subacute or chronic cases, the symptoms are less marked.

Physical Signs of Intestinal Obstruction

1. Shock is not marked unless strangulation is present.
2. Distention is present over the central portion of the abdomen and tympanites is present.
3. Gas and feces return with the first enema but none after an enema, if properly given.
4. Tenderness and rigidity are absent at first but present after peritonitis develops.
5. High-pitched tinkling sounds and audible peristalsis are present early but may disappear after gangrene develops.
6. Other abdominal signs may be absent though tumors or masses may be felt. External hernia may be found. Scars may or may not be present.
7. Late signs: Peritonitis brings leukocytosis and elevation of temperature. Dehydration brings pallor, sunken eyes, dry tongue and loss of chlorides, etc.; most marked in high obstruction, while distention is more marked in low obstruction.

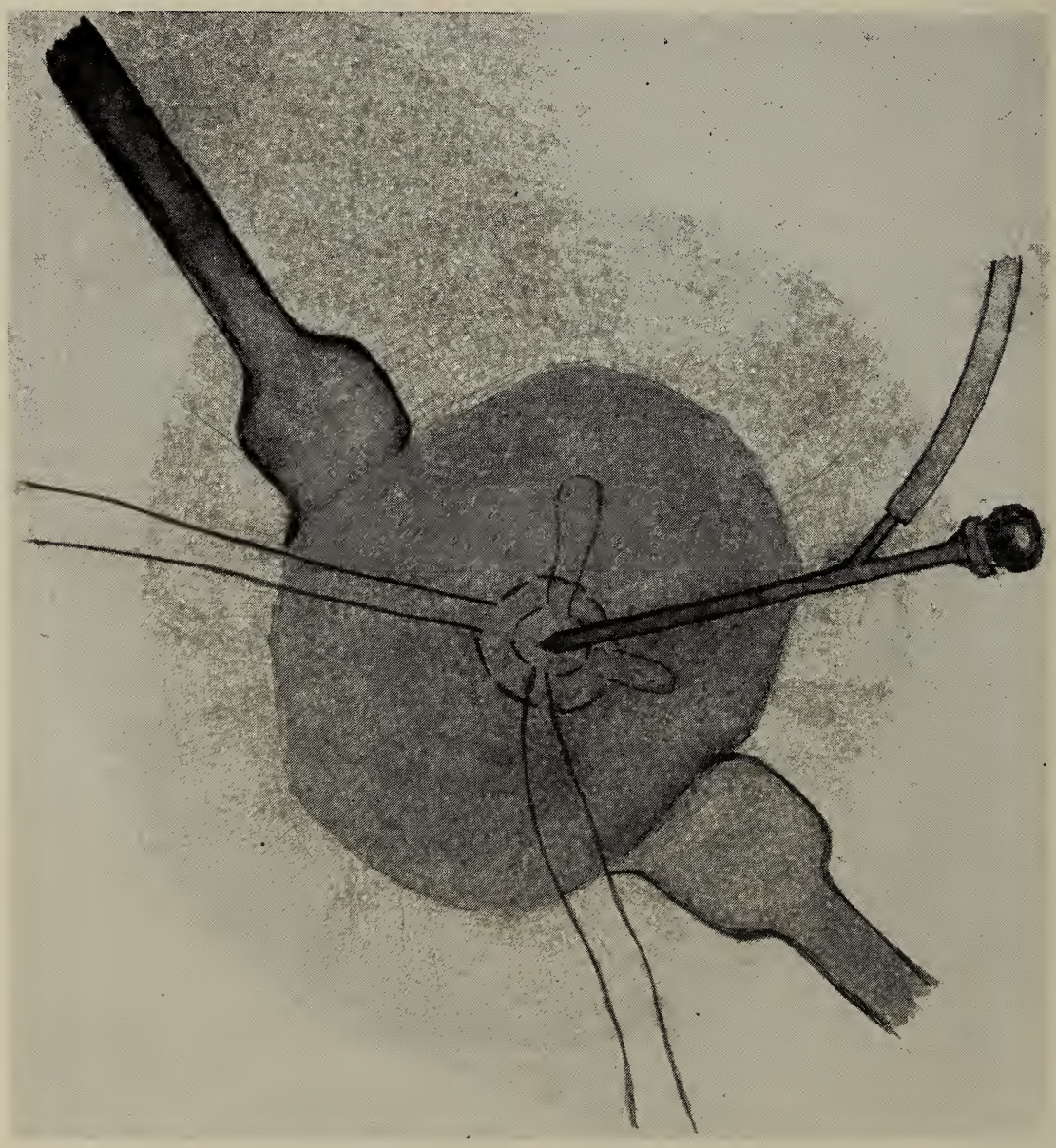
Intestinal dilatation alone seems to have a deleterious effect and may lead to ultimate death (shown by experimental tests on dogs), without loss of fluids or electrolytes, as they accumulate and are retained inside the distended bowel and outside of the vascular system. This toxic material can usually be removed by the Miller-Abbott tube and the Wangensteen nega-

tive pressure apparatus, except in a closed loop. Fluids and chlorides must be replaced into the circulation or certain physiological changes will result:

1. Hemoconcentration with shrinking of plasma volume.
2. Reduction in the fixed base of the serum.
3. Diminished plasma chlorides.
4. Increase in blood urea and non-protein nitrogen.
5. Increased carbon dioxide combining powers of the plasma.
6. Urine is often acid and may contain ketone bodies, and may show marked reduction in chloride content.
7. Later alkalosis develops if vomiting persists and if the electrolytic fluid balance is not restored.

Tests for these changes should be made and, if alkalosis develops, two per cent ammonium chloride solution may be given intravenously to combat convulsions and other symptoms of alkalosis.

Diagnosis is based on a history of an acute onset of severe abdominal pain, followed by nausea and vomiting, constipation, high-pitched tinkling sounds and audible peristalsis, not completely relieved by an enema. Distention is present over the upper central portion of the abdomen but may be general. The diagnosis may be confirmed by the findings of a strangulated external hernia or by x-ray which will reveal distended bowel, with characteristic bowel pat-



This drawing is to illustrate how a distended gut can be deflated at operation by the use of a trocar or suction tip attached to a suction machine.

tern above the obstruction but no gas shadows below, after an enema.

It is not within the scope of this paper to give a complete differential diagnosis of intestinal obstruction but only to stimulate our thoughts on certain possibilities, as more mistakes are made by not thinking than by not knowing.

External irreducible hernias are usually readily found by a good history and careful physical examination. Femoral and obturator hernias may be overlooked by a hasty observer.

Internal causes are more difficult to diagnose. Intussusception should be suspected especially in children and other acute cases when blood and mucous are found in the stools.

An infant that vomits bile in the first few days of life and has a distended, shiny abdomen, with dilated abdominal veins, tympanites and obliterated liver dullness, without milk curds in the stools, should be x-rayed for evidence of duodenal or intestinal atresia. Congenital anomalies of the lower gastro-intestinal tract are fairly uncommon but when found should be operated during the first 48 hours of life. The lesions may be multiple, and atresia, stenosis or malrotation may be found. X-ray will assist in the diagnosis of these distended infants. An imperforate anus may be found on inspection.

Functional intestinal obstruction on a congenital neurogenic basis in infancy has been described by Zueler and Wilson. There is a familial tendency and may be due to failure of development of certain nerve tissues or absence of nerve cells of the plexus of Auerbach (myenteric plexus); or have, as has been shown in some cases, so-called idiopathic megacolon. Symptoms begin at birth or in the next few weeks and are those of intestinal obstruction, but, at operation, no obstructing lesions are found. Symptoms are similar to those of paralytic ileus but have active and audible or visual peristalsis. The anal sphincter may be unusually tight. The feces, if passed, are hard-like pellets and may alternate with diarrhea. X-ray pictures are similar to those of mechanical obstruction. Treatment is exploratory laparotomy, with low enterostomy and an attempt at closure later. Dilatation of the anus should be done while the patient is under anesthesia.

In adults, obstructing scars or lesions of the pylorus, duodenum or jejunum may produce symptoms of high obstruction, rapid dehydration and loss of chlorides with nitrogen retention. Alkalosis may develop.

Gall stones that have caused perforation of the gall bladder into an adherent gut may cause an obstruction. Dr. C. W. Mayo has reported 18 such cases. However, they do not all obstruct. One of my patients passed two large gall stones without obstruction.

Early post-operative obstruction is usually due to inflammatory adhesions. Late post-operative obstruction of the small intestine is usually due to adhesive bands. Vomiting occurs early, repeated and copious. Adhesive bands may or may not be due to previous surgery. The absence of an abdominal scar should not lead one astray in the presence of symptoms of obstruction; and in the presence of a scar one must not assume that adhesions are necessarily the cause. The author has seen one patient with adhesions and obstruction from a bullet wound received 39 years before. X-ray revealed the bullet in the second lumbar vertebrae and only a small abdominal scar was seen.

Volvulus of the sigmoid begins with a sudden colicky pain. X-ray reveals a characteristic ballooned dilated large bowel above the obstruction and the bowel rarely holds more than a 500 c.c. enema. The barium enema comes to an abrupt stop as shown by x-ray. Acute mechanical obstruction of this type begins with an abrupt onset of continuous colicky pain, with vomiting, shock and evidence of a catastrophe. Delay is hazardous in these cases.

In subacute or chronic large bowel obstruction, about 90 per cent are due to carcinoma. They usually have a history of change of bowel habits, are past middle life and usually have blood in the stools. Carcinoma of the large bowel often gives a history and symptoms of progressive constipation, alternating with diarrhea. Blood changes are not marked in carcinoma of the large bowel until late. Anemia is often marked in carcinoma of the right colon by the time the diagnosis is made as it usually causes less obstructive symptoms in this region. Large bowel obstruction due to tumor produces intermittent cramp-like pain; and may have episodes of loose stools with the first few attacks. No elevation of temperature or pulse rate is noted. Vomiting is late and may not occur if the ileocecal valve is competent.

Endometriosis may compress the lumen of the gut and cause obstruction. Often bloody diarrhea

with periods of attacks of abdominal distress is noted between the periods of attack and menstrual periods with dysmenorrhea. Endometriosis is the only common condition in which there occurs invasion of one tissue by another normal tissue of the same host. Usually there are signs of extensive endometriosis and signs and symptoms of intestinal obstruction.

Digital examination is of value to differentiate between paralytic and mechanical obstruction. If mechanical obstruction is present, the bowel is collapsed against the examining finger, while paralytic bowel presents a dilated ampulla of the rectum following irrigation.

Paralytic ileus causes distention of both large and small bowel, shown by x-ray and audible peristalsis is not present. It is usually due to post-operative peritonitis or traumatic shock but may be due to debilitated conditions such as uremia, lead poisoning, etc. Paralytic obstruction may also be due to peritonitis from a ruptured appendix, perforated peptic ulcer or from intestinal biliary colic, renal and urethral stones, tortion of ovarian cyst, pulmonary infection, tabes dorsalis, tumors or lesion of the cord, etc.

Treatment: (1) Relieve the distention and evacuate the bowel. (2) Treat or remove the cause but a shunting operation may be necessary. (3) Resect all gangrenous or non-viable small bowel and do an anastomosis. (4) Exteriorize or resect gangrenous large bowel.

It matters not how urgent the indications may seem, one should start the Wangensteen suction; and make an effort to restore some of the electrolytic fluid balance by starting intravenous saline, followed by blood transfusion, continuing on through and following operation, until fluid balance is restored.

If external strangulation or incarcerated hernia is found, delay is inadvisable and operation should be done immediately. Otherwise, scout films are taken on admission if acute obstruction is suspected. Other films are taken as indicated. Laboratory studies should be ordered, consisting of urinalysis, including chloride estimation, acetone and diacetic acid; complete blood count, Kahn, blood chlorides, blood urea, serum protein, blood typing, cross matching and at least three pints of blood should be immediately available. The patient is given two ounces of mineral oil by mouth or through a nasal tube and a two quart enema is given. If the colon will not hold this amount of fluid, a barium enema should be given in search of low obstruction, volvulus, etc. The amount of distention is measured and noted. Intravenous 5 per cent glucose in saline is started. A nasal tube is inserted and negative pressure is started. The tube is left open two hours and clamped off one hour, and repeated continuously. Clear liquids and an ounce of mineral oil is given each time the tube is clamped off.

A saline enema is given every two hours and search is made for oil on the return fluid. If mineral oil does not return with the saline enema after a few hours, and the distention is increasing and the patient's condition seems less favorable, immediate operation is indicated. The higher in the gastro-intestinal tract the lesion is, the greater is the indication for immediate surgery, due to more rapid dehydration. The lower in the gastro-intestinal tract the lesion is, unless strangulation is present, the longer we may wait to get a good work-up of the case and more time can be taken to get the patient deflated and ready for surgery. One gram of sulfasuxadine or one-half gram of sulfathaladine should be given by mouth each time the nasal tube is clamped off, every three hours for five days if the patients condition seems satisfactory. This presumably is partly wasted and cannot enter a closed loop, but practically it seems to favorably influence post-operative results. The author has also used streptomycin (1 gram by mouth, b.i.d.) the same way for two days before surgery with satisfactory results.

Supportive treatment is given to overcome dehydration and restore electrolytic balances by intravenous saline, 5 per cent glucose, plasma, blood transfusion, protein solutions, etc., and to restore chlorides and serum protein. Enough fluid should be given to recover at least 1,000 c.c. of urine each 24 hours. Distention must be overcome. The Wangensteen negative pressure apparatus, using the Levine or Miller-Abbott tube is usually very helpful pre-operatively and may be adequate in paralytic ileus. The Miller-Abbott tube, however, cannot empty a closed loop and too much time should not be lost but used only to the point of maximum results and only until the patient is properly prepared for surgery. If the temperature and pulse become increased, the abdomen becomes tender, or peristalsis ceases, the patient is immediately decompressed by surgical means. The type of operation depends on

the condition of the patient and the cause and condition found when the abdomen is opened. If dark, bloody fluid is found in the peritoneal cavity, we must look for gangrenous bowel and, if found, it must be removed. If resection of the non-viable small bowel is not done, they all die, according to McNeiley, Chief Surgeon at the Cook County Post-Graduate Medical School, and this has also been my experience. The operation must not be postponed in very acute cases. In 98 per cent of the cases, the causes of obstruction can be corrected at operation without resorting to enterostomy. If the bowel is not gangrenous, troublesome distention may be relieved at operation by placing a pursestring in the bowel and inserting a trochar or suction tip into the distended bowel. Strangulated gut demands immediate surgery whether due to volvulus, hernia, or whatever cause. Gangrenous large bowel can be exteriorized and removed according to Mickulitz technique. The obstructing lesion should be removed at the time of operation if possible. It may be necessary to do a shunting operation or an enterostomy or colostomy above the lesion, unless gangrene is present. All non-viable bowel must be removed from the abdominal cavity. If resection is done or if there is possible contamination, it has been my practice to place 1 gram of streptomycin in solution into the abdomen just before closure.

In cases of repeated recurrences, intestinal plication may be successful. In cases due to malignancy or tumors of the large bowel, they should be more carefully prepared by giving sulfasuxadine or sulfathalidine, orally for 4 or 5 days before surgery and streptomycin 2 days before the resection is attempted. It is given in other cases if time permits. A preliminary transverse colostomy is done for lesions of the left colon or cecostomy for lesion of the right colon, followed by resection several days later after the patient is properly prepared.

If endometriosis is the cause of obstruction, both ovaries should be removed to prevent menstrual stimulation of this tissue. The obstructed bowel may have to be resected and a panhysterectomy may have to be done. X-ray treatment may be of value in incurable cases of endometriosis.

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DISCUSSION

DR. CARRINGTON WILLIAMS, Richmond: This brings up such a variety of approaches I will only try to cover a few of the points Dr. Putney has made.

In external hernia, especially in elderly women and especially those who are fat, it is not at all difficult to miss a small femoral hernia. I have seen several that puzzled me for awhile until I was careful enough to palpate the groin. Any patient with acute abdomen should be carefully examined for hernia. Even at times if you feel a lump you may be confused whether it is a small strangulated hernia or some other type of mass. The obstructions from adhesions is awfully interesting. It is remarkable to see how adhesions can stay so long before causing trouble. I had an old lady recently who had been operated on 42 years before; the adhesions had given her a complete obstruction after this long time.

I would like very briefly to discuss the Miller-Abbott tube. It seems to me in some clinics today they are paying a little too much attention and effort to preparing the patient and delaying the operative procedure. Now, all of us agree that they should be restored as much as possible but longer delays sometimes taken do more harm than good.

Now, in these people who are very ill, theoretically the Miller-Abbott tube is awfully good, but I have had a lot of difficulty in getting that tube out of the stomach. They certainly can't be controlled adequately unless taken to the x-ray room, and most of these people are too sick to be transferred all around, and the delay attached to the use of the tube often does much more harm than good. There are cases where it is extremely useful and very safe to use; those are cases who are obstructed in the almost immediate post-operatives period where you can feel almost certain that the obstruction is due to inflammatory reaction and not to a band of adhesions that might strangulate as well as obstruct.

Some surgeons feel very confident in differentiating between the obstructed bowel and strangulated bowel. Well, I grant that in a large number of them you can do it, but I think there is quite a sizeable number of cases where it is almost impossible to differentiate between a bowel that is simply blocked and one that is strangulated, and if you delay on a strangulated bowel it is going to become gangrenous bowel and make a very much more serious situation.

Now I would like to say a word about aspiration of the bowel. There has been a tendency for a good many years against opening the bowel in the face of obstruction. There have been several excellent studies on the circulation of the bowel published recently, particularly by Johnson and his co-workers in Detroit, and they show very beautifully that intra-luminal pressure so compresses the veins in the wall of the bowel as to be one of the factors in the large effusion of fluid into the lumen, and, in addition to that, the circulation is so impaired that the bowel doesn't come back; so in these advanced cases where the bowel has a sort of bluish or greenish color and you know that the wall, while probably intact at that time, is at least threatened and the function of the bowel is destroyed, by putting a suction tip—which is usually about eight inches long—into that bowel, you can aspirate a very large quantity of fluid, and it is amazing to see how quickly the condition of the bowel improves. In one case we got 5,000 c.c. out of the small intestine. If you have an eight-inch suction type, by threading the bowel on it carefully you can empty about eight feet. Then, if that isn't enough, you can turn it around and aspirate eight feet in the other direction, so by emptying this bowel you restore the circulation and restore its function and avoid one of the dangers, which is continual loss of fluid into this damaged bowel, which might occur otherwise.

I do not believe there is any real danger of peritonitis in that. You don't get peritonitis from any small spillage into it. All of you have seen how a perforated appendix does if you get it early. Danger of infection is from a continual spillage like a perforated gall bladder or an appendix that isn't walled off, but that small amount you get from opening bowel isn't anything, and in addition to that we have the use of all the antibiotics.

Finally, I would like to make one observation on constriction of the colon. When you have an obstructed colon and a competent ileocecal valve you can get an enormous extension of the right colon and in the face of this distention decompression is the sound thing to do, but what I would like to mention is that if the obstruction is not of very long standing, if your distention is not too great and your lesion is in a mobile section of the bowel like the transverse colon or sigmoid, it is almost as easy to do your radical operation for removal of the tumor and then follow the Rankin procedure which he calls obstructive resection. It is just about as easy to do that as to do a transverse colostomy. A transverse colostomy sounds very easy, but if you have a fat patient it may be very difficult and the proximal end can be opened as soon as you can open your transverse colostomy.

I am sure all of you will agree that cecostomies of all kinds are unsatisfactory operations.

Dr. Putney reported one case where the mass in the sigmoid was inflamed; he resected the mass, exteriorized the proximal end and closed the distal end. I have done this several times when the lower end was too short for exteriorization and the condition of the bowel not suitable for immediate anastomosis. The continuity can be reestablished at a later operation. I am sure that immediate end to end suture should only be done when the bowel ends are in prime condition.

THE TREATMENT OF SPONTANEOUS SUBARACHNOID HEMORRHAGE*

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Subarachnoid hemorrhage had been noted as a post-mortem finding for many decades but it was not until the publication of Symond's classic paper in 1923 that much clinical interest was aroused. Numerous studies were then made but diagnosis rather than treatment was stressed. One important result of these investigations was the recognition of the extremely high mortality accompanying subarachnoid hemorrhage. More recent and comprehensive reviews, such as those of Richardson and Hyland, Hamby, Magee and Wolf, Goodell and Wolff have also emphasized the extreme gravity of this condition and have contributed data concerning the ultimate prognosis.

Available statistics indicate that approximately 35 to 50 per cent of patients die in their first episode of subarachnoid hemorrhage and another 10 to 25 per cent die in recurring attacks during the subsequent four weeks. An additional 5 per cent succumb during the first year after the initial hemorrhage, and, indeed, the untreated patient can never be free of the danger of a recurrence. Such recurrent hemorrhages have been reported as long as twenty-seven years after the original episode.

Cause

The possible causes of subarachnoid hemorrhage are legion but the most common causes are hypertension, aneurysms and arteriovenous malformations. This study does not include traumatic subarachnoid hemorrhage and is confined to the so-called spontaneous hemorrhage.

The precise cause of intracranial bleeding in hypertension is not yet perfectly understood. Apparently the initial lesions are small ring hemorrhages around the capillaries and these small areas sometimes coalesce to form large hemorrhages. In other instances the small peri-capillary hemorrhages weaken the supporting structures and permit large hemorrhages. It has also been noted that many cerebral hemorrhages seem to occur around veins. In most cases of hypertensive subarachnoid hemorrhage the original bleeding has been into the brain substance with secondary leakage into the subarachnoid space.

That aneurysms are frequent causes of subarachnoid hemorrhage cannot be doubted. Dandy, Hamby, Richardson and Hyland and many others have noted the frequency of these lesions and have stressed that fact that detailed search at the autopsy table will disclose many aneurysms that will not be seen in routine studies. The etiology of these aneurysms has received extensive study. A few of these lesions are undoubtedly mycotic and syphilis may be a causative agent. Many of the tortuous dilatations are due to arteriosclerosis but the vast majority of aneurysms are congenital in origin. Forbes postulated that aneurysms occur because of defects at the points of bifurcation of the arteries but the occurrence of many aneurysms at points distant from any branchings makes this theory untenable. The detailed study of Bremer and particularly the exhaustive work of Padget on the development of the cranial arteries by reorganization of capillary beds strongly indicate that aneurysms occur where embryonic vessels fail to completely resolve.

Symptoms and Signs

The symptoms of subarachnoid hemorrhage are well known and need be only briefly summarized. The onset is usually sudden and explosive, being initiated by headache and then unconsciousness. The neck is stiff and Kernig's sign is positive. The final proof, of course, is the obtaining of bloody spinal fluid. Frequently there are no localizing signs but sometimes there are such signs, e.g., hemiparesis, cranial nerve palsies (particularly 3rd nerve palsies). In the vast majority of patients there are no prodromal symptoms to indicate the presence of an aneurysm. However, localized pain over an eye and 3rd nerve palsies have been noted for weeks before the explosive onset of subarachnoid hemorrhage in some cases.

Treatment

A review of the literature and close observation of a considerable number of patients with subarachnoid hemorrhage has led to some conclusions as to evaluation and treatment of such patients. Each case must

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be considered individually and only a broad policy can be outlined. As a basic premise, it must be understood that this syndrome carries a very bad prognosis, no matter what treatment is employed. Any condition carrying a mortality rate of approximately 50 per cent is a real challenge to therapeutic endeavors. However, whereas approximately 50 out of 100 of these patients die, the fact must not be lost sight of that the other 50 will survive. The balance in all of these patients is precarious and everything done to them must be of real therapeutic value. Ill-advised surgical procedures will certainly increase the mortality rate. Although conservative or expectant treatment is no treatment at all, it seems preferable to utilize no treatment rather than poor treatment. Ideas on the proper treatment of cases with subarachnoid hemorrhage are subject to change as new evidence is presented but for the present an apparently rational scheme will be outlined.

No patients are subjected to any surgical procedure during the acute phase of subarachnoid bleeding. A diagnostic lumbar puncture is performed but repeated spinal drainage is not employed as it is not thought to be of any therapeutic value. The available literature mentions that the dangers of spinal drainage have been over-emphasized but it gives no real evidence that such treatment is at all effective. In the absence of such evidence it is felt that repeated spinal punctures should not be done. The patients are separated then into two groups as to treatment: the hypertensive and the normotensive. The elderly hypertensives for the most part are treated by medical measures directed at their hypertension. Although some of these patients may have aneurysms, it is most probable that their hemorrhage is on a hypertensive, arteriosclerotic basis. It does not seem logical to attack an isolated outpost of a generalized disease process in an ill patient. These cases are given large doses of rutin in an attempt to decrease the capillary permeability but otherwise are kept on a coronary regimen. Middle aged hypertensive patients are treated more vigorously but again the emphasis is on the hypertensive state in the absence of signs indicating a lesion at the circle of Willis. Two of these patients have had lumbodorsal sympathectomies and one such case is here reported.

Case Report: A 45-year-old white male was driving his car when he noted sudden onset of severe occipital pain. He drove several miles and the pain became more severe. He was admitted to a hospital on January 27, 1948, where his neck was found to be very stiff and Kernig's sign was positive. Neurological examination was entirely negative. Past history revealed that he was a known hypertensive of at least ten years standing. Blood pressure at time of admission was 190/115. Lumbar puncture revealed blood-tinged fluid. Kidney, cardiac and sedation tests were satisfactory and thoraco-lumbar sympathectomy was performed in two stages on March 10, 1948, and March 19, 1948. The patient has had no recurrence of subarachnoid hemorrhage and is working at his normal occupation.

Young hypertensive patients who do not have an obvious cause for the hypertension, such as coarctation of the aorta, are investigated for an intracranial aneurysm as later outlined, disregarding the hypertension for the moment. If no aneurysm or vascular malformation is discovered, the emphasis is again shifted to the hypertension.

The normotensive patients who recover from the original hemorrhage are considered as candidates for further investigation. Such further studies are carried out as soon as the patients' condition permits. During the acute phase nothing of a surgical nature is contemplated even if localizing signs are present. If any surgical procedure is ever carried out on these acute cases it should be an intracranial attack on the bleeding point. Ligation of the internal carotid artery during the acute phase of hemorrhage is apparently of no value. As soon as the patient responds arteriography is performed, whether localizing signs are present or not.

It is mandatory to try carotid compression to see if the patient can stand some curtailment of the cerebral circulation. If an aneurysm has been demonstrated and the patient cannot stand carotid compression, the internal carotid artery is partially ligated over a fascial band. Later a direct attack may be made on the aneurysm. If carotid compression produces no symptoms an intracranial approach is frequently made. If the aneurysm has a sac that can be obliterated a clip is placed on the neck of the sac and nothing else is done as is illustrated by the following case.

Case Report: A 33-year-old white male was admitted to the hospital on June 21, 1948, because of inability to raise his right eyelid. Three months before he had noted drooping of the right lid but this

symptom disappeared within two weeks. Three weeks before admission he again noted inability to raise the right eyelid and this symptom persisted. Neurological examination revealed a complete right third nerve paralysis (inability to raise the right lid, eye held in external rotation and pupil dilated). Blood pressure was 130/80. Lumbar puncture revealed faintly xanthochromic fluid. Examination was otherwise entirely negative. Arteriography on June 24, 1948, revealed a berry aneurysm on the internal carotid artery (Fig. 1). On June 28, 1948

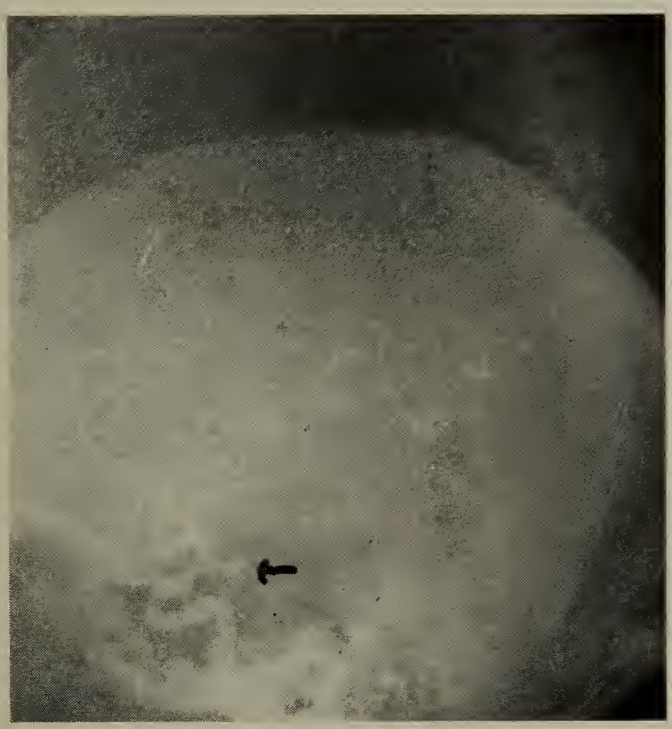

Fig. 1.

a right frontal craniotomy was performed and it was possible to put a clip on the neck of the aneurysm. The third nerve paralysis still persisted at time of discharge on July 6, 1948. The patient reported on September 8, 1948, that the third nerve paralysis had completely disappeared. He has continued well to present date.

If the aneurysm is on the carotid artery and does not have a sac that can be safely obliterated, an attempt should be made to trap the aneurysm between an intracranial clip and a ligature in the neck, as this will cure the aneurysm. On such occasions every attempt should be made to place the clip proximal to the posterior communicating artery in order to save the circulation provided by this vessel.

Arteriography may reveal an arterial lesion far removed from the base of the brain. In such instances it is well to attack the lesion directly as is illustrated by the following case.

Case Report: A 6-year-old white girl was admitted to the hospital on June 16, 1949, because of paralysis of the left side of the body. She had been perfectly well until two hours before admission when she suddenly complained of severe pain in the right side of her head. She soon developed a left hemiparesis and was extremely lethargic. Examination revealed only a left hemiparesis and stiffness of the neck. Blood pressure was 110/20. Lumbar puncture showed grossly bloody fluid. The patient slowly regained some function in the left arm and leg but developed bilateral papilledema. On July 1, 1949, she again suddenly became comatose and lumbar puncture revealed grossly bloody fluid. Patient gradually improved and arteriogram on July 6, 1949, revealed an aneurysm arising from the right calloso-marginal artery (Fig. 2). On July 11, 1949, a large

Fig. 2.

hemorrhage was evacuated from the right parietal lobe and the calloso-marginal artery was clipped. The patient was discharged improved on July 22, 1949. She has continued well and has regained almost normal strength so that she now takes dancing lessons.

Arteriography may disclose the presence of a vascular malformation. In most instances these cases have histories of many small episodes of subarachnoid hemorrhage rather than the massive bleeding commonly seen in arterial aneurysms. When these lesions are small and in an accessible area they can be removed. Usually, however, they are large and attempts at surgical removal are fraught with peril as to life and possible resultant neurologic deficit.

The proper treatment in such cases is ligation of the internal carotid artery, thereby decreasing the systolic thrust. Such a procedure frequently prevents recurrent hemorrhages as illustrated by the following case.

Case Report: A 25-year-old white female was admitted to the hospital on October 2, 1949, because of severe headache. Twelve years before admission she had sudden onset of headache and was unconscious for four days. Three weeks before admission she suddenly developed a severe headache and lost consciousness for a short time. Lumbar puncture revealed bloody fluid. One week later she again developed severe head pain and again had bloody spinal fluid. At time of admission the patient was very lethargic and the neck was rigid. There were no localizing neurological signs. Bilateral carotid angiography on October 5, 1949, showed a vascular malformation in the left parietal region (Fig. 3). On

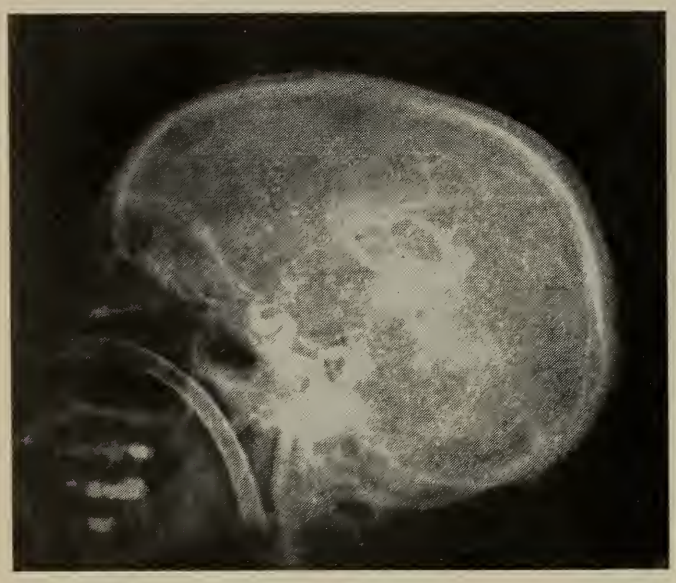

Fig. 3.

October 7, the left internal carotid artery was occluded in the neck. The patient's general condition rapidly improved and she was discharged on October 14, 1949. She has continued to be perfectly well with no complaints.

One must always be aware of the danger of any surgical attack on aneurysms. Even common carotid ligation carries some risk, as has been amply demonstrated by Pilz, Dandy and others. Attack on the lesion should always be the method of choice, as only by such direct attack can aneurysm be said to be definitely cured, but sometimes such a direct attack is not feasible. In some cases of carotid aneurysms the ligation of the internal carotid alone may be the only indicated treatment.

Efforts to reduce the prohibitive mortality of subarachnoid hemorrhage should be concentrated on two periods. The first of these important periods is before the hemorrhage actually occurs. Thus the hypertensive should receive thorough treatment, whether it be medical or surgical. The patient with a third nerve paralysis (ptosis of eyelid, dilated pupil, external rotation of eye) must have a presumptive diagnosis of aneurysm, particularly if there is also pain in the affected eye. If an attack is made on the aneurysm at this time the mortality will be low. As most aneurysms evidence no prodromal symptoms, the cases that can thus be treated before hemorrhage are few in number. The second phase deserving emphasis is the period when the patient rallies from the initial hemorrhage. Unfortunately present methods offer little benefit during the period of acute bleeding. However, efforts to prevent a second hemorrhage will greatly reduce the total mortality.

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SUBPHRENIC VAGOTOMY VERSUS GASTRECTOMY*

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There are so many ramifications to a discussion of this kind that I feel constrained to limit myself to one phase of the subject, that is, a comparison of the results obtained by elective surgery on complicated duodenal ulcer, using subdiaphragmatic vagotomy in one series and subtotal gastrectomy in the other. All the vagotomies have been accompanied by an operation in which a new stoma was formed—usually a gastrojejunostomy. A majority of the gastrectomies have been posterior Hofmeister operations. The indications for surgery have been intractable pain from peptic ulcer, failure of medical treatment after prolonged trial, pyloric obstruction, recurrence after previous perforations or repeated massive hemorrhages. The rationale of any operative procedure on the stomach with intractable duodenal ulcer is to reduce the acid content of the stomach either by removal of the acid-bearing portion, by side-tracking operation or by section of the nerves controlling the secretory cells. The physiological basis for this is largely empirical but has some foundation in experimentation as well as actual experience.

The history of vagotomy is a long and interesting one. As long ago as 1814, Benjamin Brodie[1] performed bilateral section of the vagus nerves in dogs and noted a decrease in gastric acid secretion, increase in mucus and dilatation of the stomach. Sevveral other investigators since then have made tentative experimentation on this aspect of gastric surgery, but not until Pavlov began his experiments in 1910, was the subject fully explored.

Exner[1] in 1911 performed subdiaphragmatic vagotomy for gastric crises and later added gastroenterostomy. Latarjet[1] first reported on this procedure for ulcer in 1922. He and his associates performed 59 cases with excellent results but the procedure did not gain wide acceptance, probably because of the fear that vagotomy might have serious after-effects on the other viscera supplied by these nerves. There are several excellent historical surveys of vagotomy and I will not attempt to go into the history of the subject at this time. Before 1920, gastroenterostomy alone, or pyloroplasty, was frequently performed for duodenal ulcer,[2] but the frequency of gastrojejunal ulcers, and the recurrence of the duodenal ulcer, caused a gradual loss of favor for these procedures. After this date, gastrectomy received increasing attention and was performed with much greater regularity and success until the 1940's. In 1943, after years of careful research, Dragstedt presented a series of cases operated on by transthoracic vagotomy. Later he changed the technique and performed subdiaphragmatic vagotomies, frequently accompanied by gastroenterostomy. The purpose of this is clear; it gave a much better opportunity for abdominal visualization and exploration of the lesion in the stomach.

The rationale of vagotomy is founded on the belief that peptic ulcers develop in an increased acid medium. Dragstedt's[3] opinion is that the increased secretion occurs chiefly at night when the stomach is empty. This phase of gastric secretion is governed largely by neurogenic control. It has been definitely shown that patients with duodenal ulcer will have a markedly increased volume, as well as an increase in free hydrochloric acid during the period of rest. Section of the vagus nerves blocks the cephalic phase, and by experiment and actual practice has definitely shown itself capable of decreasing both total secretion and free hydrochloric acid. The Hollander intravenous insulin test, advocated by many to determine the completeness of vagotomy, in our series of cases has not been completely reliable. There are many instances in which the ulcer has healed both from the patient's subjective and objective examination and from laboratory and x-ray procedures, who still have a positive insulin test. There are others who have a negative insulin test with persistence of symptoms.

The basis of subtotal gastrectomy is also to reduce the acid content and gastric secretion volume, but is done by mechanically removing the acid bearing portion of the stomach. An attempt is made to resect

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about 1″ of duodenum and ¾ of the stomach including most of the lesser curvature. The results are undoubtedly effective in reducing the acid, for nearly every case has a 0 free acid and a low total acid. The dreaded complications of this procedure, however, are: (1) Stomal edema or obstruction, (2) Post-operative hemorrhage and (3) Gastro-jejunal ulcer. The results of the two series of cases are classified under the following headings: (1) Excellent, (2) Satisfactory, (3) Improved and (4) Failure. The factors taken into consideration in the evaluation of the results are numerous and include both subjective and objective findings. The patient's own evaluation of his results is given a great deal of weight. The laboratory and x-ray findings are considered, and are naturally of primary importance. Forty-nine cases of duodenal ulcer were treated by vagotomy accompanied by a gastrojejunostomy, or, as in two cases, by gastrectomy also, and 44 cases by subtotal gastrectomy, in most cases using a posterior Hofmeister procedure with a short loop. It will be seen from a tabulation of the results that the outcome of the vagotomies is excellent in 13 or 26½ per cent of the cases; satisfactory in 34.7 per cent; improved in 32.6 per cent, and failure in 6.1 per cent. The total of excellent and satisfactory combined is 61.2 per cent. In the gastrectomy series there were 24 excellent results, or 54.5 per cent; satisfactory in 36.3 per cent; improved in 9.1 per cent and no absolute failures. The total of excellent plus satisfactory results combined is 90.8 per cent as compared with 61.2 per cent in the vagotomies. There were three deaths in the vagotomy series; however, only one of these could be ascribed to a recurrence or complication and this apparently was a hemorrhage. Of the other two cases, one died of an unrelated uremia and the other from an accident. None at all occurred in the gastrectomy series. However, it must be admitted that most of these latter cases have a shorter follow-up period. The results of these two series are very similar to those obtained by other authors with certain exceptions. Collins,[4] of the Cleveland Clinic, in July, 1950, found that better results were obtained at this clinic by the use of vagotomy plus gastroenterostomy. The same opinion is advanced by George Crile, Jr.,[5] at the same clinic. Gray and Williams,[6] in 1949, believe that partial gastrectomy is the preferable procedure. Beal and Dineen[7] obtained 90 per cent satisfactory results with gastrectomy, but had 17.4 per cent failures with vagotomy. St. John,[8] in 1948, and Glenn and Harrison,[9] in 1950, also favor gastric resection for treatment of duodenal ulcer. Among others who state

TABLE 1

	Subphrenic Vagotomies			Subtotal Gastrectomies		
Total	49			44		
Excellent	13	--	26.5%	24	--	54.5%
Satisfactory	17	--	34.7%	16	--	36.3%
Excellent plus Satisfactory	30	--	61.2%	40	--	90.9%
Improved	16	--	32.6%	4	--	9.1%
Failure	3	--	6.1%	0	--	0.0%

that gastrectomy is their operation of choice are, G. G. Miller[10] in the *British Journal of Surgery* in 1950, and Walters[11] of Mayo Clinic. Dragstedt still favors vagotomy in the treatment of the average ulcer of the duodenum, as does Grimson, of Duke. In evaluating the results of our series, personal contact, examination, and laboratory, plus radiological findings are given the greatest weight. However, later information sometimes was obtained by letter and in these cases, results were considered on the basis of questions asked. It is necessary, however, in questionnaires to know something of the personality of the patient. Frequently, the answers tend to be more pessimistic than those given to the same questions when delivered personally.

From the results in the two series, it is quite evident that this survey shows definitely more favorable results in the subtotal gastrectomies. The vagotomized patients not only have more post-operative gastrointestinal symptoms, but have much more frequent development of additional complaints, related apparently to the effect of altering the vegetative nervous system. Among the complicating factors of vagotomy are nervousness, vertigo, occasional diarrhea, weakness, sweating, epigastric pain, vomiting and eructation. The gastrectomy patients occasionally, but not commonly, develop nausea and vomiting, dumping syndrome with its weakness, nausea and sweating, and a few other lesser complications. Major complications such as definite recurrence of the duodenal ulcer has not been proven in the vagotomy series, but at least two cases had later hemorrhages which may have been due to gastrojejunal ulcers. None of the gastrectomies have developed definite stomal ulcers and none have been complete failures.

The gastric acidity has shown a tendency to rise to normal levels again in one to two years after vagotomy, probably due to the development of an automatic control by the submucous plexus rather than regeneration of the vagus nerves. VanZant[2] has shown that vagotomized dogs show no regeneration of the vagus fibers, but have developed normal acid volume and percentage after several years. The cases in which vagotomy was done and who have developed an increased acid later on, have not necessarily developed ulcer symptoms again, however.

In conclusion, it is of interest to note that the initial fervor with which the operation of subdiaphragmatic vagotomy was met has now settled down to a more practical attitude of case selection, using this operation more often for cases in which it would be extremely difficult, or dangerous, to remove the duodenal ulcer and for marginal ulcers. The average case of duodenal ulcer requiring surgery should, in our opinion, be treated by subtotal gastrectomy. Finally, I am convinced that any type of operative approach to duodenal ulcer, except pyloric obstruction perforation or near fatal hemorrhage, is, despite frequent brilliant results, but a temporary expedient, which will some day give way to a less brutal and more fundamental form of therapy. What this will be is not within my power and I daresay anyone else's power to say, but it may well be in an exploitation of a more comprehensive knowledge of the real cause of ulcers and a more superior control over body chemistry, hormonal and enzymatic balance, coupled with neuropsychiatric treatment. This may be strange language from a surgeon, but someday the difficult riddle of peptic ulcers will be solved, and I believe that surgery then will take second place in its treatment.

Addenda

Since completion of this article, two cases of subdiaphragmatic vagotomy, both of whom have been followed from time to time and both of whom were operated on in 1947—one in November and one in July, have developed further trouble, and must be classified as failures. Both have had gastric hemorrhages and one shows definite gastrojejunal ulcers. A subtotal gastrectomy will be the solution in both cases.

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Discussion

Dr. Hugh H. Trout, Jr., Roanoke: I should like to congratulate Dr. Rennie on his timely paper and also for his good results. The early results, as reported by Dragstedt, who put out the first large series, were extremely excellent; and yet, when we look back, the results during the first six months or year when gastro-enterostomy came into general use were even better than have ever been reported for vagotomy or subtotal gastric resection. But the trouble was that sufficient time had not elapsed for the development of jejunal or stomal ulcers in the early gastro-enterostomy cases, and the late ulcers were found to be much more frequent than the early results indicated. The same thing is true also of vagotomy. It was greeted with great enthusiasm; yet, particularly as shown in Dr. Rennie's paper, the results are not as good as those with subtotal gastric resection. Subtotal gastric resection, of the three operations, has been subjected to the longest period of trial and has held up. I agree with Dr. Rennie that in many ways it is not physiological and that perhaps some better treatment will come, but in general it is my feeling that that is the treatment of choice at present.

While Crile and Dragstedt and a few other surgeons still feel that many ulcers should be treated with vagotomy, I believe that the vast majority of the surgeons in America now feel that the main indication, as Walters has pointed out in a large series at the Mayo Clinic, is for stomal ulcers following a gastric resection. Cer-

tainly the usual duodenal ulcer should be treated with resection; that is, provided it is a case for surgery. If the ulcer is extremely difficult to remove, as certain penetrating ulcers far down in the duodenum are, it is my personal opinion that an exclusion operation will give better results than vagotomy, even though the ulcer is not removed. A stomal ulcer following a gastro-enterostomy is best treated by excision of the ulcer and a subtotal gastric resection.

Recently Grimson and his associates have reported on banthine, which is an amine compound causing autonomic blocks of the nervous system. By the use of this compound a so-called "medical" vagotomy can be produced. They first reported one hundred cases, with unusually good results. In my experience and that of my associates our results have been encouraging but nothing as striking as reported from the Duke group. Certainly, however, this gives us food for thought; and, while banthine cannot be considered as effective an autonomic block as a vagotomy, still it could perhaps be relatively comparable and could be tried. Now, if banthine is going to be effective in a patient there is no reason why it cannot be continued and vagotomy perhaps not be necessary. If, on the other hand, banthine is not effective in a certain patient, one would certainly be rather skeptical as to the efficiency of performing a vagotomy in that patient.

I believe that vagotomy will eventually hold a place in gastric surgery, perhaps in stomal ulcers following resections; but the place is becoming smaller, and I think that Dr. Rennie has brought that out very clearly.

DR. RENNIE, closing the discussion: I wish to thank Dr. Trout for his excellent discussion and to add that it is very difficult to evaluate the results in these patients, as so many of them are cases in which you cannot ascertain the degree of subjective improvement, because of the strong pension influence. You have to take so many of the answers with a grain of salt and do the best you can.

Reversible Bifocals.

A new type of eye glasses which allows the bifocal portion to be moved out of the way when not needed is described by Dr. David E. Rolf of Cleveland in the April *Archives of Ophthalmology*, published by the American Medical Association.

According to Dr. Rolf, the lenses of the glasses may be rotated, or turned upside down, by a unique method of attachment, so that the bifocal part is on top instead of on the bottom. In his opinion this reversible lens arrangement has certain advantages. "Its flexibility will save many patients an extra pair of glasses. It offers a possible solution to the long-standing problem of the patient who cannot accustom himself to walking while wearing bifocals in their usual position. It also permits the bifocal segment to be placed upward and out of the way during all or part of his walking activities. It would also seem applicable for patients engaged in occupations with unusual visual demands. Patients in these categories include barbers, switchboard operators, painters and paper hangers, as well as most people employed in the building trades, where sure footing is a necessity."

Dr. Rolf believes that the mechanics of changing the position of the lenses are sufficiently simple so that most persons are able to master them easily. There are no limitations regarding size, shape or type of bifocals or trifocals that can be used and the technic of prescribing and fitting these lenses is not difficult.

INCIDENCE OF INTRACRANIAL NEOPLASMS IN VIRGINIA

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During the period 1920 to 1950 at the Medical College of Virginia Hospitals, 249 intracranial neoplasms have come to the autopsy service of the pathology department. These lesions, which were recorded during the examination of 6,300 consecutive post mortems in this interval, constitute approximately a 4 per cent over-all incidence. Since most of these cases were from Richmond and the surrounding region, we feel that the following statistics probably represent average figures for the state of Virginia and possibly for any of the Southern states.

Figure 1

Table of Comparison of Incidence of Intracranial Neoplasms

Classification of Neoplasm	*Anderson*	*Courville*	*Pautler/Apperly*
1. Chordoma	1%	?	0% (0)
2. Glioma (Total)	44%	38.8%	50% (124)
A. Astrocytoma	13%	5.6%	8% (20)
B. Glioblastoma multiforme	11%	22.8%	28% (69)
C. Medulloblastoma	5%	3.9%	6% (15)
D. Ependymoma	4%	2.8%	2% (5)
E. Oligodendrogliocytoma	3%	0.6%	0% (0)
F. Astroblastoma	2%	0.8%	1% (3)
G. Spongioblastoma unipolare	1%	?	1% (3)
H. Others	5%	2.2%	3% (9)
3. Neurinoma	10%	3.9%	4% (11)
4. Meningioma	15%	10.7%	9% (22)
5. Mesodermal (Total)	4%	1.4%	5% (13)
A. Vascular	3%	1.4%	4% (11)
B. Stromal	1%	?	1% (2)
6. Mixed (Total)	5%	1.1% (cong.)	3% (8)
A. Dermoid, epidermoid, etc.	1%	?	1% (3)
B. Craniopharyngioma	4%	?	2% (5)
7. Hypophyseal	16%	5%	9% (23)
8. Metastatic	3%	18%	16% (37)
9. Granuloma	2%	21.4%	4% (11)
		0.2% (misc.)	

The accompanying table with its classification and percentages (see Fig. 1) was obtained from Anderson[1]. His figures undoubtedly represent averages for the northern states and possibly for the nation as a whole. They are based on over 2,000 cases (including those of Cushing) and consist mainly of surgical specimens, although many of the tumors were verified at autopsy. Also included in this table are the figures of 355 intracranial neoplasms found in a series of consecutive autopsies by Courville[2].

In the comparison of Anderson's and Courville's findings with ours, both the similarities and the differences are of interest and worthy of comment. First of all, the gliomas in general constituted 124 cases, or 50 per cent in our series, which is slightly higher than the other two figures. We found the commonest glioma to be the glioblastoma multiforme with 69 cases (28 per cent), which is almost three times more frequent than Anderson's 11 per cent but right in line with the 22.8 per cent of Courville. Anderson, as well as other texts, lists astrocytoma in first position. The figures for the astrocytoma, medulloblastoma, ependymoma, astroblastoma and spongioblastoma are either identical with or quite similar to

We are indebted to Dr. C. C. Coleman and the Department of Neurosurgery through which most, if not all, of this material came.

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the others. It is to be noted that no oligodendrogliocytomas have come to autopsy at this hospital.

As for the other types of neoplasia, we gathered 23 cases (9 per cent) of hypophyseal tumors, of which all but one were adenomas and 50 per cent of these were of the chromophobic type. As for the meningiomas, neurinomas, mesodermal, mixed and metastatic types, all figures are within reasonable limits. The low percentage given by Anderson for the metastatic variety is understandable in view of the fact that his series is based primarily on surgical material. Of our series, about two-thirds, or 26 cases of the metastatic type, were due to carcinoma. According to the percentages of Anderson (2 per cent) and ourselves (4 per cent) for the granulomas, it appears that the 21.4 per cent of Courville is unreasonably high.

Although the collection of tumors presented is not large and the possibility of misdiagnosis must be considered, we feel that the comparison of the Virginia figures with others around the country is worth while.

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Nerve Surgery Helps Paraplegics in Convalescent Period

Nerve surgery on some paraplegics (persons paralyzed in the lower part of the body) in a convalescent stage appears to be justified as a result of experiences at the Van Nuys (Calif.) Veterans Administration Hospital, according to Dr. John D. French, associated with the hospital.

Dr. French, reporting on his observations of 500 paraplegics in May 19 J.A.M.A., explained that at first a paraplegic is under the care of a neurosurgeon. The neurosurgeon evaluates the extent of the injury and does what he can, surgically and otherwise, to facilitate the return of function where damage is not irreversible. Next comes a period of rehabilitation, often long and difficult, during which neurosurgery contributes little. Later, however, he pointed out, rehabilitation may stop short of the ultimate goal for the patient because of new neurosurgical problems which can be helped by a second operation. Seventy-seven of the 500 patients he reported fell into this category and were operated upon because their rehabilitation became static or regressive.

As an illustration, he cited the case of a 30 year old man who became paralyzed in the lower part of his body as a result of a shell fragment. He said:

"Rehabilitation was never satisfactory because the patient complained of pain in both legs. He was admitted to the hospital three years later, where he made no effort to enter into the usual activities, of rehabilitation apparently being confined to the discomfort. A chordotomy [cutting a part of the spinal cord which carries pain] was done two years later after which complete relief of pain was reported. The patient was subsequently discharged from the hospital and now indicates that he leads a normal, comfortable existence."

Because of these and other advances in rehabilitation of paraplegics in recent years, Dr. French said that the feeling of hopelessness that clouded the outlook of these patients has been largely dispelled. They can be taught to talk and walk and can be returned to usefulness, he added.

He estimated that at least one out of every five or six paraplegics requires neurosurgical intervention late in his rehabilitation period.

SOME CONSIDERATIONS OF THE PHYSIOLOGICAL EFFECTS OF CORTISONE AND ACTH IN MAN.*

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Kendall,[1] in reviewing the trials and tribulations connected with the development of compound E, states that in 1946, interest in the steroid hormones of the adrenal cortex had sunk to a very low level. Many investigators had concluded that no hormone of the adrenal cortex was of sufficient importance to merit additional investigation of its characteristics, and more than one clinician lost all hope of these substances ever achieving any importance in the practice of medicine. This situation was suddenly reversed in 1949 when the first publication on the effect of cortisone in rheumatoid arthritis was published.[2] We now know that the adrenocorticotropic hormone of the pituitary and 17 hydroxy—11 dehydro-corticosterone or cortisone are powerful hormonal substances which have far reaching effects in man. It is likely that all of the body tissues are affected when these compounds are administered. They not only effect beneficial results in certain diseased states, but they also bring about a series of physiological and pharmacological alterations which are not always easily separated. The mechanisms by which these agents produce these therapeutic alterations remain obscure, but it is certain that they result from an artificial state of hormonal excess, for, with a few exceptions such as Addison's disease and panhypopituitarism, no hormone deficiency has been demonstrated in those diseases which are benefited by their administration. For these reasons, it seems important to study the physiological effects of cortisone and ACTH in man, for their safe and effective therapeutic employment depends on a thoroughgoing understanding of their physiological potentialities.

Inasmuch as these hormones are capable of inducing changes similar to those in Cushing's syndrome, it may be helpful to study the physiology of this condition. Cushing's syndrome may be produced by a functioning tumor of the adrenal cortex, a progesterone producing tumor of the ovary or by atrophic changes in the paired paraventricular nuclei of the hypothalamus.[3] Any of these primary causes can effect similar changes in the glandular hypophysis; that is, over-action of the eosinophile cells or degranulation of the basophilic cells. In the experimental dog, pathologic changes similar to those exhibited by persons with Cushing's syndrome can be produced by denervation of the neural hypophysis or by interruption of the afferent nerve pathways to the supraoptic and paraventricular hypothalamic nuclei. It has been shown that a Cushing-like syndrome can be produced by effecting a loss or a decrease in those factors of the neural hypophysis which are under the trophic influence of the paired paraventricular nuclei either by dividing the afferent fibers to these nuclei, or by dividing those issuing from these nuclei to innervate the hypophysis. On the other hand, it has also been shown that hyperfunctioning of these nuclei can effect changes in the hypophysis which are responsible for exophthalmic hyperthyroidism.[4] Normally there exists an antagonistic relationship between the hormones secreted by the inner two zones of the adrenal cortex and those hypophysial secretions to which the paraventricular nuclei are trophic. The metabolism of carbohydrate, fat and protein and sex gland development and activity are dependent on these hypophysial hormonal factors. When these factors are decreased, there is an increased secretion of the hormones of the adrenal cortex. Likewise, experimental evidence exists which indicates that those hormone factors of the neural hypophysis which are under the trophic influence of the supraoptic nuclei of the hypothalamus are entirely concerned with the regulation of salt and water balance. The secretion of desoxy-corticosterone or some similar steroid of the glomerular zone of the adrenal cortex is in balanced antagonistic relation with the antidiuretic principle of the pituitary.

As noted above, when there is a loss of those hypophysial hormones to which the paraventricular nuclei are trophic, there is increased hormonal activity of the two inner zones of the adrenal cortex. The increased activity is an expression both of increased secretion and augmented effectiveness. The effectiveness is increased by a loss of the normally antagonis-

*Read at the Augusta Medical Society, January 3, 1951.

tic hypophysial hormonal factors. This results in increased stimulation of hypophysial eosinophile activity, which, in turn, stimulates the adrenal cortex to hyperplasia and increased secretion. Therefore, there is established a self-sustaining cycle resulting is continued hyperfunction of the hypophysial eosinophile—adrenal cortical hormone complex. This results in a chain of characteristic symptoms such as development of increased appetite, obesity, decreased insulin response, hypertension of the diastolic type, cardiac, adrenal, renal and parathyroid hypertrophy, hypercholesterolemia and disturbance in potassium metabolism.

Polydypsia and polyuria are accounted for by neutralization of the antidiuretic hormone of the hypophysis by excess amounts of adrenal cortical hormone.[5] Obesity results from over-eating effected by polyphagia which is attributed to hyperfunction of hypophysial eosinophile adrenal cortical activity. This activity also interferes with the utilization of carbohydrate and apparently increases gluconeogenesis from protein. Therefore, there is additional carbohydrate for conversion into fat.

Degeneration of connective and elastic tissue in the arterial wall has been found in Cushing's syndrome.[3] Parathyroid hyperplasia and hyperfunction with demineralization of bone attributed to hypophysial basophile depression occurs in both Cushing's syndrome and renal dwarfism. It has been postulated that the calcium released by demineralization of bone is deposited in these degenerated elastic and connective tissue fibers which have been shown to be the ones where calcification occurs in atherosclerosis. What part the hypercholesterolemia of Cushing's syndrome plays in this picture is not known but arteriosclerosis is a constant development in the disease.

It has long been known that the cells of the renal tubule are under the trophic influence of the hypophysial eosinophile cells. These may stimulate the renal tubular epithelium to augmented excretion as measured by diodrast or para-aminohippurate. Renin when released by renal tubules in turn stimulates the hypophysial eosinophile adrenal cortex mechanism. This situation can be obtained in the experimental dog by wrapping one kidney with silk. With the development of hypertension, histological evidence of hyperplasia of the eosinophiles of the hypophysis becomes obvious. If the kidney is then unwrapped and normal circulation becomes re-established, tubular function returns to normal and the cytologic picture of the pituitary returns to its former state. Another possible explanation for the hypertension is through epinephrin and the adrenal medulla. Epinephrin not only causes renal afferent vasoconstriction with increased release of renin, but it is also now well known that it increases the secretion of adrenal cortical hormone[6] through the hypothalamic nuclei and eosinophiles of the hypophysis. These in turn apparently secrete a renotrophic hormone, as noted above. It also seems likely that as arteriosclerosis develops in all the arterioles, including those of the kidney, augmented renin release will occur in an effort on the part of the body to maintain adequate renal blood flow.

As this hypertension develops, the heart is stimulated to maintain the elevated pressure through the action of such mechanisms as angiotonin, the anterior pituitary and epinephrin and the adrenal medulla.

Colowick, Cori and Slein[7] have shown that the adrenal cortical hormone inhibits the utilization of carbohydrate by depressing insulin sensitivity. Heinbecker[8] has shown histological evidence of pancreatic islet cell depression in the experimental animal with the Cushing-like syndrome. Campbell and Best[9] and others have also demonstrated functional depression of islet tissue by the administration of the anterior pituitary hormone. Ham[10] has shown histological evidence of beta cell depression following administration of the hormone. Therefore, with this evidence in hand, it seems obvious that increases in hypophysial eosinophile adrenal cortical activity as a result of depression of the paired paraventricular nuclei are sufficient cause for the diabetes of Cushing's syndrome.

Osteoporosis is invariably found in Cushing's syndrome and is the result of parathyroid over-activity. This hyperfunction is accompanied by hyperplasia and is effected through degeneration of the hypothalamic nuclei with consequent depression of pituitary basophile activity.

From a clinical standpoint, it is convenient to divide the physiological activity of ACTH and cortisone into five groups: (1) effect on water and electrolyte metabolism; (2) effect on adrenal cortical function and structure; (3) effect on carbohydrate,

protein and fat metabolism; (4) miscellaneous hormonal effects and (5) neuropsychiatric changes.

Effect on Water and Electrolytes

The effect of the adrenal cortical hormone on electrolyte and water balance is not clearly understood. Originally, it was thought that the chief effect of cortisone and allied hormones in this connection was the loss of salt and water from the body. In the adrenalectomized dog, retention of potassium and large losses of sodium with rapid elevation of plasma NPN are consistently found. These changes are easily reversed when adrenal cortical hormone is given. These effects do not invariably hold true when cortisone or ACTH is administered in man. In many circumstances they may cause a retention of salt and water, and frequently of sufficient degree to cause edema. This salt and water retention is not necessarily related to the prolonged administration of the drug or to excessively large doses. We have seen twelve pounds of water retention with periorbital and ankle edema develop after the administration of only 300 mgs. of cortisone, but usually it begins to appear only after 2 gms. or more of cortisone or 600 mgs. of ACTH have been given. In many instances excess salt and water will be excreted and edema will disappear in spite of the continued administration of the hormone. All of these effects have not been clearly elucidated. It has been suggested that one factor may be the depression of the endogenous production of corticoids by the administration of cortisone, but this certainly will not explain the salt and water retention which occurs when ACTH is given.

This sodium and water retention during the administration of cortisone or ACTH may create a hazard in the patient and usually does in those with cardiac complications. This is of particular importance in regard to rheumatoid arthritis, for a small percentage of these patients have mitral valve lesions similar to the mitral stenosis of rheumatic fever and Libman-Sachs disease. This lesion was first reported by the Mayo Clinic group in 1941, and, although it has not received very extensive attention in the literature, it is not an uncommon lesion in our experience. We have encountered one patient with rheumatoid arthritis and mitral disease who experienced severe cardiac decompensation with marked salt and water retention while under treatment with cortisone.

Losses of chloride and potassium with resulting alkalosis similar to that associated with Cushing's syndrome have been known to occur in patients receiving 200 mgs. of cortisone or 100 mgs. of ACTH daily. This situation is not exactly the same with the two hormones, inasmuch as there is also a lowering of plasma sodium when it develops as a result of the administration of ACTH. This does not occur during cortisone therapy. When the hormones are discontinued these electrolytes return to normal more slowly after cortisone than after ACTH.

Increased losses of potassium with a negative potassium balance invariably occur when either agent is administered in large doses. Initially, there apparently is a slight retention of potassium, but this rapidly gives way to increased losses with development of negative potassium balance. This potassium is derived from both intra and extracellular fluid compartments. The portion originating from within the cell is evidence of the catabolism of cellular protein which usually takes place when either hormone is administered.

Effects on Adrenal Cortical Function and Structure

It is probable that all known functions of the adrenal cortex are stimulated by the administration of ACTH. Actually, more compound F than cortisone is probably elaborated after ACTH administration. Morphologically there is both hypertrophy and hyperplasia of the adrenal cortex. On the other hand, when cortisone is administered, the effects on the cortex of the adrenal are generally opposite. Eventually atrophy takes place. This is noticeably seen in patients with Cushing's syndrome due to a hyperfunctioning adrenal cortical tumor on one side. The contralateral gland is usually hypoplastic and functionally inert. That atrophy and hypofunctioning of the adrenal cortex does occur, during and following cortisone therapy, is evidenced by diminished response to the Thorn test (fall in eosinophiles after ACTH administration), diminished excretion of 17-ketosteroids during and after cortisone administration, and by necropsy evidence of adrenal cortical atrophy. The glands show weight reduction and histologically there is depletion of lipoid material in the zona fasciculata while the zona glomerulosa is

well preserved. This atrophy probably results from the suppression of pituitary adrenocortico tropic function which cortisone induces. There is, however, no reason to suspect that this alteration in function and structure is not reversible when the hormone is discontinued.

EFFECT ON CARBOHYDRATE, FAT AND PROTEIN METABOLISM

Carbohydrate: It seems obvious that the impairment of carbohydrate metabolism that one might expect from cortisone or ACTH administration seldom develops to an appreciable extent. This is probably due to the relatively small dose given as compared with that necessary to induce diabetes in the experimental animal. We have not seen diabetes develop in any patients under treatment with either of the hormones. We have given cortisone in the usual dosage to one patient without frank diabetes, but with definitely impaired tolerance to glucose, who showed no change in the glucose tolerance curve after four weeks of treatment consisting of a total of 3.1 gms. of cortisone. Normal glucose tolerance curves have been demonstrated after 90 and 160 days of cortisone administration. However, a temporary state of diabetes has been produced by both cortisone and ACTH. Conn, Lewis and Wheeler[11] report glycosuria due to lowered renal threshold for glucose. Frank diabetes with acidosis developing in a 17-year old boy with leukemia being treated with cortisone has been reported. McEwen[12] noted the development of diabetes in a 10-year old girl with Still's disease being treated with ACTH. Temporary exaggeration of pre-existing diabetes has also been reported by others.

Protein: With small doses of cortisone only small increases in nitrogen losses occur, but with larger doses (200 mgs. cortisone daily or 100 mgs. ACTH), there is a decided loss of nitrogen from the body which is due to increased protein catabolism. Pronounced creatinuria also occurs when larger doses are given, which also probably indicates increased protein breakdown, muscle protein in particular. The increased excretion of uric acid is consistent with the same interpretation. The development of cutaneous striae, the delay in wound healing and the inhibition of tumor growth which has been noted experimentally are all indications of the effects of these agents on protein metabolism.

Fat: The ways in which fat metabolism is influenced by cortisone and ACTH are not fully known, but, as has been noted elsewhere, fat stores are probably augmented by polyphagia, decreased utilization of carbohydrate and increased carbohydrate for conversion to fat by virtue of increased gluco neogenesis. Transient ketonuria in patients receiving 80 mgs. of cortisone daily has been reported by Perera in association with marked interference with carbohydrate metabolism. Abnormal distribution of fat consistently occurs with excess hormone administration. The trunk and neck become obese and the face rounded. Rounding of the face is usually associated with considerable weight gain. This change in facial contour is not due to edema, but to deposition of fat in the cheeks and it is usually the earliest and most easily noted sign of abnormal fat distribution.

MISCELLANEOUS HORMONE EFFECTS

Menstruation may be disturbed during the administration of either cortisone or ACTH. This usually manifests itself as amenorrhea or oligomenorrhea, and it would seem that menstrual function might be more easily disturbed in the young than in the mature female.

Mild hirsutism and acne occasionally develop in women which are effects usually associated with steroids exhibiting androgenic activity. More pronounced evidences of masculinization, such as deepening of the voice and enlargement of the clitoris, apparently have not been described. Exactly why these evidences of increased androgenic activity should occur is not clearly understood. It has been suggested that cortisone itself has weak androgenic properties or that it is metabolized to produce androgenic steroids. It is of interest to note that the 17-ketosteroids are not invariably the same qualitatively. Those produced in normal individuals appear to have dermatotrophic properties in the sense that they stimulate the growth of pubic and axillary hair and acne, but are not androgenic. Patients with adrenal cortical virilism, however, produce cortical hormones which prompt masculinization and nitrogen anabolism.[13]

NEUROPSYCHIATRIC CHANGES

Psychic effects are almost constantly seen during administration of these substances. Euphoria or mild mental stimulation almost invariably occur. Manic and depressive states and frank psychosis

have also been observed by others. In nearly all patients there is some alteration in mood. Hoefer and Glaser[14] report patients showing insomnia, irritability, bitterness and depression with well defined electroencephalographic changes. Hence, it is not likely that the sense of well being and euphoria seen in most patients is simply a result of surcease from discomfort. Thorn states that there are personality disorders in both hypo- and hyper-adrenal cortical function. It is interesting to note that the electroencephalographic abnormalities of Addison's disease can be corrected with cortisone. Hoagland has found that these changes in the adrenalectomized animal can also be corrected with Δ 5 pregnenalone.

Summary

The adrenocorticotropic hormone of the hypophysis and cortisone are powerful hormonal substances with far flung physiological implications throughout the body tissues and systems. A thoroughgoing understanding of the potentialities of these hormones is an indispensable requirement for their secure and efficacious use.

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SYMPATHOLYTIC DRUGS IN PERIPHERAL VASCULAR DISEASE

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In 1945 Acheson and Moe[1] thoroughly investigated the effects of tetraethylammonium (a quaternary ammonium ion) in animals. They demonstrated that this drug blocked transmission of nerve impulses through the autonomic ganglia. It is believed that transmission of impulses from preganglionic to post-ganglionic fibers is mediated through acetylcholine liberation at the ganglion synapse. Tetraethylammonium acts by preventing the action of acetylcholine on the synapse of the post-ganglionic fibers. Hence, no impulse travels down these fibers. Tetraethylammonium chloride is known as etamon. The drug should be given intravenously or intramuscularly in 200 to 500 mgm. doses. Horwitz, Montgomery, Longaker and Sayen,[2] have demonstrated vasodilatation in peripheral blood vessels and moderate increase in cutaneous blood flow by its use. Etamon frequently causes alarming side reactions, such as, weakness, nausea, numbness, tachycardia, and a precipitate fall in blood pressure. At times it has proven an excellent testing device in the detection of pheochromocytoma, causing a sudden rise in blood pressure. The effect on hypertension in general is a lowering of the blood pressure. This property of the drug has been utilized in testing patients who have hypertension for splanchnic nerve resection. Our experience with etamon has been confined to hospital cases, as we do not believe that it is a safe drug to use in ambulatory patients. It is a popular testing device, but individuals with organic peripheral vascular disease have not shown any remarkable improvement by its use and those with gangrene have gone on to amputation.

In 1939, Hartmann and Isler[3] suggested that, in a group of phenyl substituted alkyl imidazolines, priscoline caused the greatest depression of blood pressure. It also causes vasodilatation in peripheral blood vessels, with slight increase in cutaneous blood flow.[2] Later, other investigators suggested that the action of priscoline was adrenolytic, preventing the liberation of epinephrine at the sympathetic endings in the smooth muscle of blood vessels, peripherally. Priscoline may be given orally or parenterally and, therefore, has a distinct advantage over etamon. There have been many studies in the foreign literature concerning its value. The investigations in this country by Grimson, Reardon, Marzoni and Hendrix,[4] also Rogers,[5] have caused enthusiastic acceptance by many clinicians.

Our experience with priscoline is based on the study of forty-two cases of peripheral vascular disease over the past two years. These cases were seen in the out-patient clinic and hospitals of the Medical College of Virginia. There were thirty-five patients with arteriosclerosis obliterans, five with thromboangiitis obliterans, and two with Raynaud's disease. The severe cases were those with varying degrees of gangrene, who were given 50 mgm. of priscoline parenterally twice daily in the hospital. In no instance was a limb saved from amputation by the use of the drug. The clinic and private cases were given from 100 to 200 mgm. of priscoline orally every day for a period of from three to eighteen months. They were followed with oscillometric studies and careful questioning as to intermittent claudication. There were no spectacular results and no improvement in the oscillometric readings. An occasional patient stated that he could walk a block further than before the use of the drug. Our best results were in ten private cases who discontinued smoking and followed all of our suggestions as to care of the extremities. These cases were considered mild and we thought they would have improved without the drug. Both of the cases of Raynaud's disease stated that episodes of cold fingers and numbness were lessened and they were happier while under the influence of the drug. Very few individuals could tolerate over 150 mgm. of priscoline orally a day. Their usual complaints were nausea, dizziness, and palpitation.

We attempted to evaluate the effect of priscoline on hypertension by the following experiment. Seventeen patients with hypertension were given 50 mgm. of priscoline intravenously. The blood pressure was taken before injection and every half hour for the

*Presented at the Regional Meeting, American College of Physicians, February 22, 1950, Richmond, Va.

next two hours. Our results showed no changes in ten cases, five cases had a rise of at least 10 mm. in systolic pressure, two had a drop of 20 mm. in systolic pressure. It has been suggested that either larger doses or prolonged use of the drug might be necessary to reduce blood pressure. We treated eight private cases with hypertension over a period of a year and none of them had any unusual changes in their blood pressure.

It is possible that both etamon and priscoline in large enough doses will produce general vasodilatation and dilate cutaneous blood vessels, but the sympatholytic drugs are not selective in their action, and general vasodilatation in other areas may tend to divert blood away from the skin. If there is a reduction of blood pressure due to vasodilatation, secondary vasoconstrictor reflexes tend to counteract the desired cutaneous vasodilatation. If other vascular beds are dilated, there may be an increase in cardiac output per minute, which is undesirable in cardiac disease, frequently coexisting in many patients with peripheral vascular disease. Our problem in peripheral vascular disease is to induce local vasodilatation to the affected extremity. This is best accomplished by local cutaneous nerve blocks or sympathetic nerve resection. Under the circumstances, we are not sure that the approach to treatment of peripheral vascular disease is with drugs that produce general vasodilatation. Our own clinical experience indicates that etamon and priscoline are of negligible value in the treatment of organic peripheral vascular disease.

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New Books

We give below some of the newer books received by the Tompkins-McCaw Library of the Medical College of Virginia, Richmond. These are available to our readers under usual library rules, by addressing the Library.

Alström—A study of epilepsy in its clinical, social and genetic aspects.
Army medical library—Classification. Medicine. 1st ed.
Bohm—Massage, its principles and technic.
Cecil and Loeb—A textbook of medicine. 8th ed.
Chobot—Pediatric allergy.
Current biography. Who's news and why. 1951.
Duncan—Diabetes mellitus.
Edsall, ed.—Enzymes and enzyme systems.
Greenberg—Antipyrine, a critical bibliographic review.
Himwich—Brain metabolism and cerebral disorders.
Hogan—Ocular toxoplasmosis.
Lutz—Richmond in World War II.
Public health service—Public health areas and hospital facilities.
Rosebury—Experimental air-borne infection.
Seymour—Rice, dietary controls and blood pressure.
Smith, H. W.—The kidney, structure and function in health and disease.
Strauss & Strauss—New ways to better meetings.
Veterans Administration—Conference on cortisone research. Symposium.
Winters, ed.—The collected papers of Adolf Meyer. Vol. 2, Psychiatry.

MESENTERIC VASCULAR OCCLUSION WITH SUCCESSFUL RESECTION OF THE SMALL INTESTINE— REPORT OF A CASE.

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Virginia Beach, Virginia.

The recent report in the *Journal of the American Medical Association* of a case of mesenteric vascular occlusion with successful resection of 275 cm. of small bowel, has prompted me to submit the following case, which, tho not so extensive, is felt worthy of recording. This would be the 66th report of successful surgical treatment of mesenteric vascular occlusion. For a review of the literature, the reader is referred to the article by E. S. Koon, Jr., M.D. "Mesenteric Vascular Occlusion", J.A.M.A., Vol. 143, Number 16, August 1950, page 1408.

REPORT OF CASE

A 53 year old white female was admitted to the Virginia Beach Hospital at 6:45 P.M., 6-15-50, complaining of agonizing pain in the midepigastrium. She was well until 2½ hours prior to admission, at which time she drank a glass of milk, and immediately experienced a sudden sharp pain in the rectum. The pain gradually worked up to the midepigastrium, and in about 15 minutes became so severe that she was prostrated. The pain radiated around both sides to the back. She felt nauseated, but did not vomit. A physician was called right away, and he gave her morphine, grains ¼, without relief. This was repeated in a few minutes, but the pain continued and she was brought to the hospital. She vomited once enroute. She had had a normal bowel movement that morning. There were no urinary symptoms; no chills or fever. She had had upset stomach intermittently for the past six weeks, which was always relieved by milk of magnesia. Past history revealed a total hysterectomy, bilateral salpingectomy, and appendectomy in January, 1949; X-ray treatment for goitre 35 years ago: otherwise negative.

Upon admission the patient appeared acutely ill, although the symptoms seemed out of proportion to the physical findings. The temperature was subnormal (97), pulse 80, respiration 20. Blood pressure was 100/70, heart and lungs normal. The abdomen was acutely tender in the midepigastrium. There was no spasm, no distention, and no masses. The lower midline scar was intact. Rectal examination revealed no tenderness, masses or spasm. A tentative diagnosis of acute pancreatitis was made, and gastric suction was instituted. With heavy sedation she spent a fair night. In the morning she appeared worse. T. P. R. 99.2: 110:28. The abdomen was more tender, and the pain apparently more severe in spite of morphine. There was no spasm or rigidity, and very little distention.

The blood amylase was normal. An upright film of the abdomen revealed no free gas under the diaphragm, and no evidence of intestinal obstruction. Wbc. 14,000 with 87% polys. The hemoglobin was 97%, and the Rbc. 5,210,000.

In spite of the negative X-ray, an intestinal obstruction due to the previous operation was suspected, and the surgical consultant was asked to see the patient. He agreed with the diagnosis, and recommended immediate exploration.

With the patient under spinal anesthesia, the scar of the previous incision was excised, and the peritoneal cavity explored. Lying free in the abdomen in an area entirely devoid of adhesions was an 18 inch loop of small bowel, near the junction of the jejunum and ileum which appeared devitalized. The proximal portion was more severely involved than the distal, the first inch being practically gangrenous. The small bowel was nowhere distended, and the involved segment was entirely collapsed, the proximal portion presenting a sharp line of demarcation; the distal portion had only spotty involvement. Arterial pulsation in the mesentery was good. There was a diffuse capillary thrombosis in the mesentery near the bowel extending for about 6 inches, the first inch being practically gangrenous. There were two small band adhesions deep in the pelvis between the bladder peritoneum and the terminal ileum, and two between the colon and bladder peritoneum, but there was no obstruction.

Decision was made to resect a portion of the small bowel approximately 18 inches long. A side to side

anastomosis was performed and the abdomen was closed in layers with chromic catgut and heavy cotton tension sutures.

Pathological examination showed only hemorrhagic infarction with beginning necrosis.

Post-operatively the patient was started on gastric suction, penicillin and streptomycin q. 3 h., sedation and intravenous fluids. The post-operative course was uneventful, temperature never rising above 100. Suction was discontinued on the 5th day, and oral fluids were allowed. Sutures were removed on the 6th day, and penicillin and streptomycin were discontinued on the 7th day.

She was discharged on the 15th post-operative day, at which time she was taking a full diet, and her only complaint was of weakness. She has been followed closely in the Out-Patient Department, and has had no symptoms referable to the operation.

U. S. Moves Wounded by Air Quickest, Safest Way.

Wounded G. I.'s in Korea are being returned to the United States in the quickest and safest way possible—by air, an article in the current May issue of *Today's Health* pointed out.

Air evacuation, an emergency feat prior to World War II, has become "standard operating procedure," according to Dr. Howard A. Rusk and Eugene J. Taylor of New York City, authors of the article. They estimate that 97 per cent of the wounded have been moved to the United States in this manner.

"Important first as a lifesaving measure, the speed of air transportation of the sick and disabled has many other advantages—comfort, shorter hospitalization, great economy and the saving in man-hours of medical personnel," they said.

A recent study of the Joint Chiefs of Staff was cited which estimated that more than 20 times as much medical personnel is required for moving patients by hospital ship as by air. As an example, a ship that moves 300 patients a distance of 10,000 nautical miles requires 126 medical personnel, including 8 doctors. Three hundred patients transported the same distance by air require but three to four medical personnel and no doctor at all. This means 282 man-days by air, in contrast to 5,670 man-days by hospital ship. The article continued:

"In addition to speed, trips by air have the great advantage of flexibility and frequency. C-54 evacuation planes travel approximately ten times as fast as a hospital ship, require only 34 patients instead of 300 to make up a full load, and may travel in any direction over land or water. Greater trip frequency eliminates need for large holding hospitals overseas and long delays in getting patients back to the United States."

How helicopters and small liaison planes make it possible to pick up the wounded within a few feet of where they fell and move them back to the various airstrips, also was described.

"Although the helicopter is particularly adept at this, its usefulness is limited by its short range of flight. To overcome this obstacle, the Air Force has been experimenting with hooking on to helicopters in mid-air and towing them with long-range planes. Arriving above the wounded to be evacuated, the helicopter cuts loose from its tow, lands, picks up the wounded, rises again and is hooked on to the long-range planes for a tow-back to the airstrip."

CLINICOPATHOLOGICAL REPORTS

From the Case Records of the Medical College of Virginia and the University of Virginia Hospitals.

HARRY WALKER, M.D., *Editor*
WILLIAM KAY, M.D., *Associate Editor*

CASE NO.: B-98342

A three months old, white female child was referred to the hospital because of failure to gain weight, and because of gradually increasing abdominal distention. The baby was born in a local hospital, and apparently was perfectly normal at birth. However, at the age of three weeks the child was given to a foster mother and she described the child, at this time, as being "nothing but skin and bone", and weighing less than 6 pounds. The foster mother was unable to give any other history of the patient prior to the time of her adoption. At this time a formula consisting of evaporated milk, Karo and water was given the child, but due to the onset of diarrhea, Dextrimaltose #3 was substituted for the Karo. (Formula—evaporated milk ounces 8, water ounces 18, Dextrimaltose 5 tablespoons.) The infant apparently took this formula well, but gained weight very slowly. The foster mother noted that there was a gradual but persistent enlargement of the abdomen. There was no history of vomiting. The stools were described as being normal in number, volume, consistency, and color.

Physical Examination: Temperature 98. Pulse 148. Respirations 38. Length 51½ cms. Head 37 cms. Chest 32 cms. Abdomen at the umbilicus 37½ cms. Weight 8 pounds, 5 ounces. The child was fairly well developed, but poorly nourished and pale. The head appeared large in comparison to the face and the rest of the body. The fontanelles were open, and the suture lines separated. The frontal bones appeared small, while the occiput appeared large. No gross abnormalities of the eyes, ears, nose and throat were noted. The lungs were clear. Respirations were shallow and rapid. Examination of the heart revealed no abnormalities other than the rate of 148 per min. The abdomen was markedly distended and tympanitic to percussion. The superficial abdominal veins were prominent. There were tinkling peristaltic sounds over the entire abdomen. No masses could be palpated. External genitalia were normal. The extremities were essentially normal except for an increase in length of both little fingers in comparison to the other fingers. The neurological examination was essentially negative. The skin was pale with a scanty amount of subcutaneous tissue and was moderately dry. There was a slight icteric tint to the sclerae.

Laboratory Data: Hemoglobin 11.2 grams. Red blood count 3,510,000. White blood count 10,150, Polys. 49%, Bas. 2%, Lymphs. 45% and Monos. 4%. Urine: amber, acid, specific gravity QNS, 2 plus albumin, 2 plus sugar, negative acetone, microscopic showed many bacteria. Flocculation negative. Blood sugar 164 mgm.%. NPN 31 mgm.%. Serum proteins total 6.44, albumin 3.92, globulin 2.52. Stool examination revealed neutral fat to be present, no starch present, and the specimen gave no reaction to the x-ray film test for trypsin. Flat and upright films of the abdomen showed gas in the large bowel to the upper descending colon and gas in the small bowel. The generalized hazy appearance of the abdomen on the upright films suggested a possibility of ascitic fluid. The spleen and liver appeared to be somewhat larger than normal with both domes of the diaphragm elevated. The lung fields were clear and on an AP film the heart was not unusual. Long bone films of both arms and legs showed no periosteal elevation or other pathologic change. Two days after admission abdominal paracentesis yielded 350 ccs. of straw-colored fluid, with a protein content of 850 mgm.% and a specific gravity of 1.008. Following paracentesis the liver was found to be palpable at approximately 2 to 3 fingers breadth below the coastal margin and was described as being very firm and leathery. The patient continued to drain some ascitic fluid from the site of the paracentesis for the duration of her illness. At this time a BSP test showed 22% dye retention in 80 minutes. Three days after admission a glucose tolerance test was reported as follows: Fasting 170, half hour 216, one hour 315, two hours 384, three hours 295 mgm.% respectively. Other laboratory studies were as follows: Cephalin flocculation 3 plus. Thymol turbidity 3. Serum

bilirubin 4.3 mgm. direct with a 4.4 mgm. total.

The hospital course was essentially an afebrile one with the pulse varying between 95 and 120 and respiration from 25 to 40. The infant took its formula well while in the hospital, but the weight dropped following paracentesis to 6 lbs., 13 ounces, and continued to drop until on the day of death the child weighed 6 lbs., 2½ ounces. No vomiting or diarrhea was noticed, but the infant was listless and fretful at times. Five days after admission the child expired quietly.

Discussion by Dr. Carolyn McCue*.

We have under consideration today a very interesting little three-months-old white female. The social history in this case may not be quite so interesting as some others we have had discussed recently; in fact, I think if we had to surmise the story here we might be suspicious that we even had an illegitimate child. We know at least it was an unwanted child. We are also told that this child was born in a local hospital and that nothing was unusual about its delivery. We know it was given to a foster mother at three weeks of age and all our history is from her and this seems very meager. We know that the baby had had relatively poor care. We can assume from the protocol that the only food was this standard evaporated milk formula, with no vitamins, no cereals, no orange juice in the three-month period. This is certainly not the usual pediatric procedure on a three-month old child, particularly for one who has not been gaining or doing very well. But, I can not believe we can assume that the liver disease here is due to any alcoholic intolerance or any other social problem of this particular age.

The medical history tells us several very important things. In the first place, the child had a story of failing to gain weight; it weighed around 6 pounds at birth. At the time it came into the hospital it weighed around 8 pounds. After the paracentesis was done it went back to about 6 pounds; so far for all practical purposes it never gained anything over its birth weight.

It had a large abdomen which was one of the major complaints that was offered. Its large abdomen had been noted from the first when the foster parent received the child, and had grown progressively worse. The story we have is that the stools were normal in number, consistency and color, which covers a wide scope particularly in view of the facts that we get later. We hope that is a true statement and we are bound to presume that that fact is as stated. We are also interested in the fact that there are no neurological symptoms. This child had no spastic paralyses, no respiratory symptoms, and we hope all of that is as negative as it is stated.

On examination the child was afebrile, temperature 98°F., pulse 148 per min.—it is not very much out of line because it was three months old—the child was small and emaciated and with scanty subcutaneous tissue. As to her head, I think the observer would have you think that it was almost a hydrocephalic type shape of head with the sutures still not united, the fontanelles being large but there is no tension and the measurements themselves are certainly not grossly out of proportion for a child of that age.

It is important that the lungs are negative as I mentioned, both in history and on examination. The abdomen is the main site of our physical findings. There, the superficial abdominal veins are prominent, there is marked distention, which first we are not sure what the cause is, and then it is realized that it is probably ascites. We are told later in the protocol that, when 350 cc. of the transudate was removed, the liver was two or three fingers down, that it was firm and leathery in consistency.

It does not mention feeling the spleen. We will see what the x-ray says about that. Certainly it is questionable that the spleen is not enlarged too. We know there was a slight icteric tint, and the statement is made that the little fingers were slightly long in proportion to the rest of the hand. If the fundi were seen, no cherry red spots were visualized.

As to the laboratory studies: The blood count is certainly normal, 11.2 grams is average for a three month old child, 10.5 being the normal standard at this age. The rest of the findings are not out of line. The urine is notable for 2+ albumin and 2+ sugar, without acetone or diacetic acid and without bile and without cells. This is a rather odd combination of circumstances in view of facts that come along later.

We have stools which show neutral fat present. Artificially fed infants normally will have about 35% as neutral fat. Breast babies will have even more fat but this stool is not a greasy stool of undigested fat or a very offensive stool of undigested

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protein which you would be suspicious of in a case of pancreatic deficiency. We are told there is no starch in the stool, and normally some is found.

There is a negative x-ray film test for trypsin and I do not know whether everyone is familiar with that. A test was recently described by Harry Schwachman and his associates in August 1949, where the stool is diluted with a little sodium bicarbonate, incubated, and if you have trypsin present it is a very simple test to show the digestion by the enzyme on X-ray film. The trypsin in the stool will digest the gelatin of the x-ray film very promptly if it is incubated and you can see the enzyme activity. It is not 100% accurate and certainly on one examination I would not get too excited over the fact that the child did not show any trypsin in the stool, particularly in view of the fact that all the stools consistency and color were normal.

The Wassermann or the serological test for syphilis being negative in this case is very accurate because a flocculin test in a three-months old child should be reliable. While syphilis could conceivably explain all of these symptoms on a congenital syphilitic basis, I cannot feel we are justified in thinking very seriously of that in view of this negative test.

Blood chemistries show we have a normal NPN, serum proteins which are very slightly low, 6.58 being normal at birth, here it is 6.44. We have a little bit of lowering of the albumin and raising of the globulin but a very minimal amount with an AG ratio, 1.55 here, average being 1.7 at this age, so I do not think that is very marked.

I am very much impressed by this high blood sugar, 164 mgm.%, 170 mgm.% later, which we will talk more about later. Liver function tests also showed a BSP with 22% dye still retained at the end of an hour and a half. This is marked retention which should be all clear at the end of this time. Cephalin flocculation being 3.+ is another index of an unusual protein formation here; and thymol turbidity being another test of the same general nature, showing these globulins and proteins as we find in hepato-cellular jaundice. Thymol turbidity 3, where an infant's maximum is 0.77 normally. The serum bilirubin is 4.3 direct, or almost all direct, the type we would expect with an obstructive type jaundice, the type which has been separated from the protein element. The glucose tolerance test certainly is an extremely interesting thing in a baby and a very rare thing to find in a child of this age. Of course, we are not told whether this was all fermentable sugar or whether it was not fermentable sugar, and I understand this could all have been glucose or galactose or some other sugar, or it could be any combination of these things, but certainly it is a high fasting level, and the slow fall is in perfect keeping with the diabetic type that we are used to thinking of. Maybe Dr. Mandeville would like to show us the x-rays.

DR. MANDEVILLE*.

This is a three months old child. The long bones show no periosteal elevation. It is true you could have rickets or scurvy in a child below the age of six months but very rarely so. Therefore, we would suspect nothing in the bones. In only one case out of five do we find periosteal elevation in syphilis; therefore, I am afraid from the standpoint of the skeleton I can give no help.

Now, from a standpoint of the lungs: They were perfectly clear; the heart was not unusual from an x-ray standpoint. The abdomen appears to be very distended. The domes of the diaphragm are rather high, but neither one nor the other is higher than would be expected in a general abdominal enlargement. There is a suggestion of an enlargement of the liver. The spleen might be very slightly enlarged but not greatly so. I would not think the patient had intestinal obstruction. The spine is not markedly curved in any way. The sutures are not wide, I do not see any evidence of hydrocephalus.

There seems to be a slightly enlarged liver, possibly a very slightly enlarged spleen, and ascites. Otherwise the x-ray examination is essentially negative.

DR. MCCUE RESUMES:

I think it is rather interesting too, that in the prematures, where there is rapid growth, you might get rickets at this age. Since rickets would be in proportion to the rapidity of the growth, and with this child not growing you would not expect it.

As far as the hospital course is concerned, we are told that the child had a paracentesis and had a blood glucose tolerance test, done two days after the baby came in, and that she died on the 5th day. No mention of any therapy is made.

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In the differential diagnosis in this case, I was impressed by four important points: In the first place, I do not think you can get around the fact that this child had ascites to a very striking degree. The second thing is the baby obviously had some liver damage as is very evident from the total picture and the chemical tests we have in addition. I was very much impressed by the diabetic-like blood sugar curve, and the high fasting blood sugar, which I think probably is the most helpful clue that we have in this whole case—certainly a most unusual thing in a three months old child. The fourth thing is that I think we should mention the absence of trypsin in the stool. As I have said, I do not believe this is a case of cystic fibrosis of the pancreas although the child had wasting and a big abdomen. In view of the ascites and the obvious liver damage, too, the normal stool and the absence of the respiratory systems, I feel that we can pretty safely dismiss the possibility of a cystic fibrosis of the pancreas and look for something else.

The ascities obviously brings up the possibility of many different causes. I cannot conceive that this child had a cardiac origin, with the normal heart we see on x-ray and no mention of cardiac findings, no other signs of failure in the lungs, etc., or pericardial signs. I do not think we have to seriously consider the infectious origin of ascities, although I suppose we might at least think briefly of tuberculosis, which conceivably could give you ascites at this age. A tuberculin test was made but I do not believe tuberculosis would explain the rest of the picture here very well. Nutritional ascites would certainly give you far lower serum proteins and edema elsewhere other than just ascites.

While there is some albumin in the urine, it is not massive and there were no red cells and the other changes we really would expect in nephritis are absent.

Malignancies would be exceedingly rare at this age and would not, as far as I can see, explain the picture.

As far as the liver damage is concerned, the portal obstruction would certainly seem to be the most likely cause of the ascities and I think if you just look at this case from the beginning, you would certainly think of some sort of cirrhosis, particularly if you were not too concerned about the blood sugar pattern. We have several congenital types of cirrhosis, things like Wilson's disease or hepatolenticular degeneration, but that comes on with marked neurological symptoms in the teens as a rule. Hereditary angiomatosis has been reported to cause cirrhosis but that does not give you all the damage that we have here. The obstructive causes of cirrhosis, things like congenital atresias, choleocystitis, etc., would certainly give you clay colored stools with a very high icteric level and would give you the evidence of much more marked obstructive type of jaundice. Again this would not explain the blood sugar problem. We might mention the fact that it has been reported that inspissation of bile in the intrahepatic ducts in erythroblastosis was cystic fibrosis of the pancreas. As to congestive type of cirrhosis—we mentioned the cardiac failure and thrombophlebitis of the inferior vena cava—again we have no evidence to think very seriously about those.

Of course, we do not know if this child had any poisons—we do not presume it was given any arsenic, silicon, etc. or mushrooms or various other types that might have given it cirrhosis at this age. As you know, such things have been produced, mainly in animals, but we have no history to suggest that here. I do not suppose the child had any alcohol, and I do not know of any report where alcohol in the parent has given cirrhosis in the children, at this stage.

Infections, of course, are frequently associated with obstructive type of cirrhosis, or can occur alone leading to cirrhosis; notable we speak of syphilis which I feel is pretty well excluded in our seriological test.

Other types of cirrhosis, of course, are the extreme fatty infiltrations which are not a very rare thing. They usually do not give you the other associated symptoms which we have here.

I think we might mention here briefly infectious hepatitis, which has just recently been reported in infancy. Ascites is not the common finding. The stools are clay colored—there is more biliary obstruction and as a rule fever of an infectious disease, and not the blood sugar changes.

The reticuloendothelial diseases seem to me to probably be a little more logical trend of thought. The first part of this week I was all ready to discuss Acute Infantile Gaucher's Disease, which is a very rare sort of problem but which has certain features which could fit in with this unusual picture. It has

been reported to show jaundice and diabetes and nephritis, all associated in an infant that appeared normal at first, then developed neurological signs; they have spastic paralyses and as a rule get a lot of laryngo-spasm and trismus. The only one I have ever seen had the striking finding of having great difficulty in eating due to laryngo-spasm and trismus, and I could not conceive that we could quite ignore the fact that this child had no neurological symptoms at all. I say again, this is a very rare disease and is a very different type of disease from the chronic Gaucher's usually thought of in older people; but of course both are due to this storage of kerasin which is one of the types of storage disease which we can get. The other types are Niemann-Pick disease and Hand-Schüller-Christian disease, of the storage diseases, but they do not fit in here nearly as well in an infant. If it had been an adult, someone would have thought of Hemochromatosis or bronze diabetes. It was one of the first things I looked up. Dr. Priscilla White reported it was never seen in children less than two years of age. That is very logical because it would take years for enough iron to be stored in the liver and spleen, etc., to accumulate enough to give you the physical picture we have where diabetes and cirrhosis are associated.

I was very much interested in looking up the differential diagnosis of glycosuria in children and found that 66% of all glycosuria in children was non-diabetic in nature. This brings me to my final suggestion: This is galactose intolerance, galactose diabetes or galactemia. Without the ketosis you are bound to think seriously of the type. Glycosuria can be caused by excessive carbohydrates in the diet. It can be caused by low renal threshold. It can be caused by von Gierke's disease. This disease should have been mentioned briefly under the reticuloendothelial system as another one of those rare sort of storage diseases where you get glycogen storage leading to large livers, spleens, often with enlargement of the heart at the same time. These children usually, though, in spite of these tremendous livers are very well developed, well nourished childen who get along remarkably well for years with the tremendous amount of glycogen in storage in the liver, in the heart and in the various other organs, with remarkably little laboratory evidence of any derangement of their liver function except for the low blood sugar.

It seems to me that this problem of the galactose intolerance might be a very reasonable one here, as on studying the problem further I could find nine cases, so far, where a picture has been described which compares well with our case today. The first one was described in 1917 by a German named Goppert who had three children in one family; two of them died less than two months of age with ascites, jaundice, tremendous abdomen, etc. The child he described was the one about two years of age, which he found with galactose, a non-fermentable sugar in the urine. The child had ascites, a large liver, wasting and mental retardation. After he found the galactose in the urine he took the milk away from the child and immediately be began to thrive. He first reported it and other people have noted the facts and there have been some other reports, a number of other reports since that time, each one pointing out the same general clinical features. They are Mason and Turner in 1933, Norman and Tashua in 1943, Mellinkoff in 1945, and Goldbloom in 1946.

It is interesting to notice that the galactose seems to be very poorly utilized or metabolized by the liver. Exactly what happens to it or whether it is stored in the liver or whether it has a toxic influence on the liver, I have been unable to determine, but each one of these report positive cephalin flocculation tests, ascites, very large livers and, interestingly enough, in each one of them the 2+ albumin and the 2+ sugar in the urine is very characteristic. Of course, as soon as the galactose is removed from the diet, that immediately disappears. Mental retardation and cataracts often occur too.

These writers have theorized different underlying causes. To me the most likely one is Mellinkoff; that galactose probably has a toxic effect on the liver cells and for that reason acts in a more damaging way than glycogen storage does in causing a picture very much like a portal cirrhosis, with obstruction and ascites and later parenchymal liver damage with the changes in the liver function tests such as we have described here.

As far as the kidneys are concerned, the best thing seems to be that there is probably an altered protein that is excreted which shows up as 2+ albumin on the routine tests and which, as soon as the galactose is removed, disappears immediately.

As far as I have been able to find, all these chil-

dren that have been reported have lived and have been followed on galactose-free diets on which they would thrive and improve after being extremely emaciated and hungry and having the physical picture described here before. I do not think one of the clinicians was intending to give me a clue but he was very helpful when he told me he thought this child was going to live. Once milk was removed from the diet, if the child had survived a few more days, it should have had a good prognosis.

I would like to suggest that I think this child had galactemia, with liver damage, portal obstruction, ascites, and probably cirrhosis on a toxic basis. I will be very interested to know whether there is galactose stored in the liver, or just what is the pathological finding. I believe she died with liver failure and emaciation.

Fig. 1. Enlarged spleen with prominent connective tissue markings.

Hospital Diagnosis: Galactemia.

Dr. McCue's Diagnosis: Galactemia.

Pathological Report: Dr . Gordon R. Henningar*.

At necropsy, the infant was poorly nourished and developed. On opening the peritoneal cavity, approximately 50-75 ccs. of clear, serous fluid was evident. The liver weighed 180 gms. (normal—130). The shape was not disturbed and the surface finely nodular. A green color was imparted to the organ. On cut section, the edge was irregular due to small humps, separated by strands of connective tissue, causing the capsule to be retracted from the surface. The hard consistency of the liver was easily appreciated. A careful dissection revealed no abnormalities or occlusion of the gall bladder and bile ducts. Chemical analysis on a representative portion of the

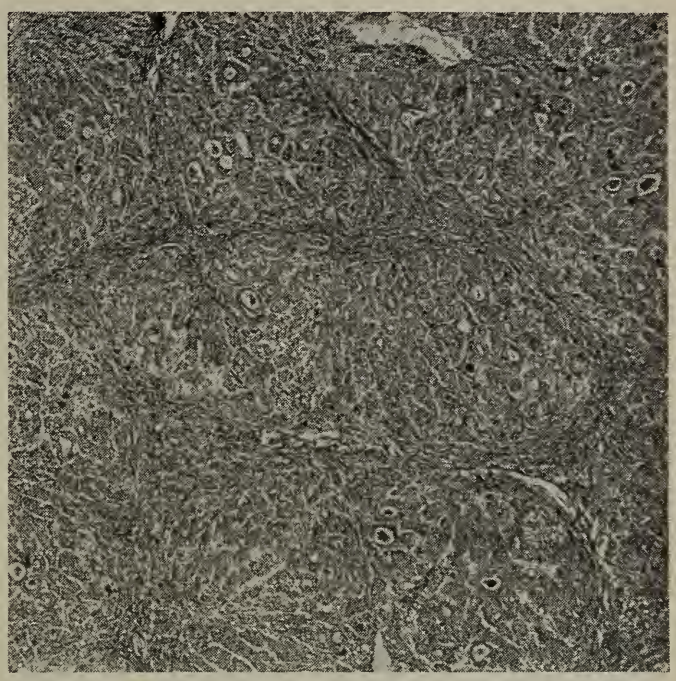

Fig. 2. Small nodules separated by connective tissue.

liver revealed an increased amount of lipid and diminished content of glycogen. A detailed account on this analysis and the pathological findings are to be published. The spleen was enlarged weighing 90 gms. (normal 40-50 gms.). On cut section, the

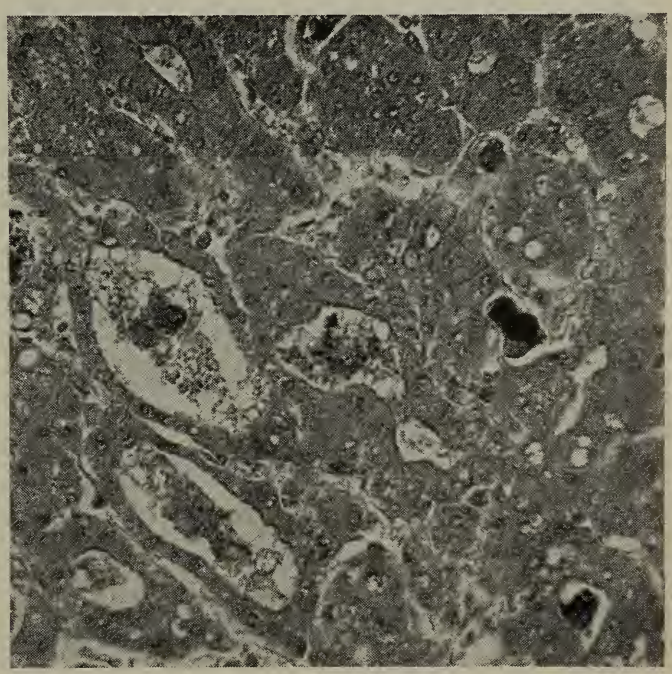

Fig. 3. Peculiar acinar structures containing bile thrombi. Note also vacuolation of liver cell cytoplasm (fat droplets).

*Associate Professor of Pathology, Medical College of Virginia, Richmond.

red pulp was red and prominent. The Malphigian corpuscles were small and widely separated (fig. 1). The trabecular markings were very distinct. One had the impression that the connective tissue content of the organ was increased. The remainder of the organs were not remarkable. Some twenty-five sections of the brain were cut after formalin fixation. In none of these did we see any lesions. We were particularly eager to assoicate this case with the disease known as hepato-lenticular degeneration of Wilson.

Microscopically, the liver presented a most challenging appearance. The sections showed the organ to be composed of small nodules separated by thin strands of connective tissue (fig. 2). Within the nodules one saw many acinar structures, containing bile casts or bile "thrombi" (figs. 2 and 3). These may be just markedly distended bile canaliculi, obstructed by inspissated bile. In the portal areas many proliferating and proliferated bile ductules were observed (fig. 4). In other areas large sudanophilic droplets were noted markedly displacing liver cells (fig. 5). Periodic-acid-Schiff positive granules were seen in a few cells. Sections were fixed in formalin, Bouin's, Zenker's, formol-alcohol, absolute alcohol. Special stains included Best's carmine, P.A.S., Masson trichrome, Azocarmine, P.T.A. The nature of the liver lesion, as well as its classification defy clarity. In some respects, it resembles Laennec's cirrhosis; in other respects, biliary cirrhosis. The possibility of it being a congenital malformation (peculiar congenital cirrhosis) must be entertained. The criteria for making the histological diagnosis of congenital post infectious hepatitis have not been elaborated as yet (if such occur).

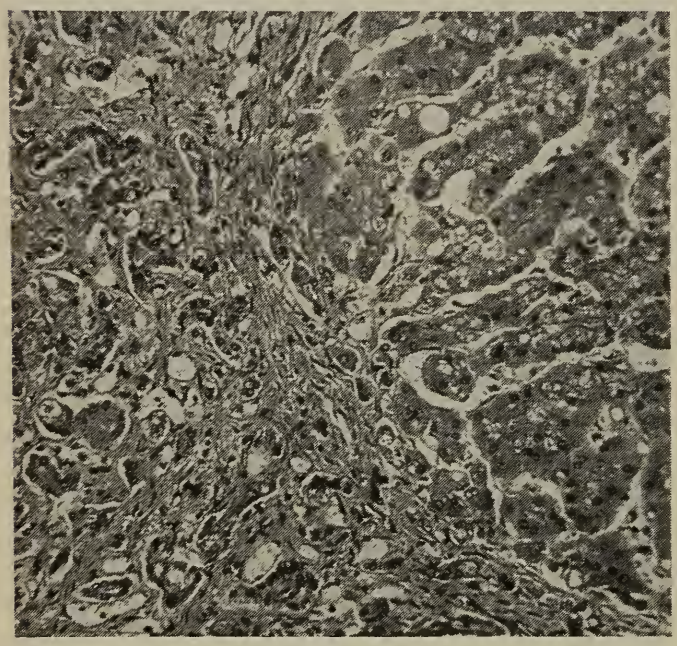

Fig. 4. Proliferated and hyperplastic bile ducts in portal spaces.

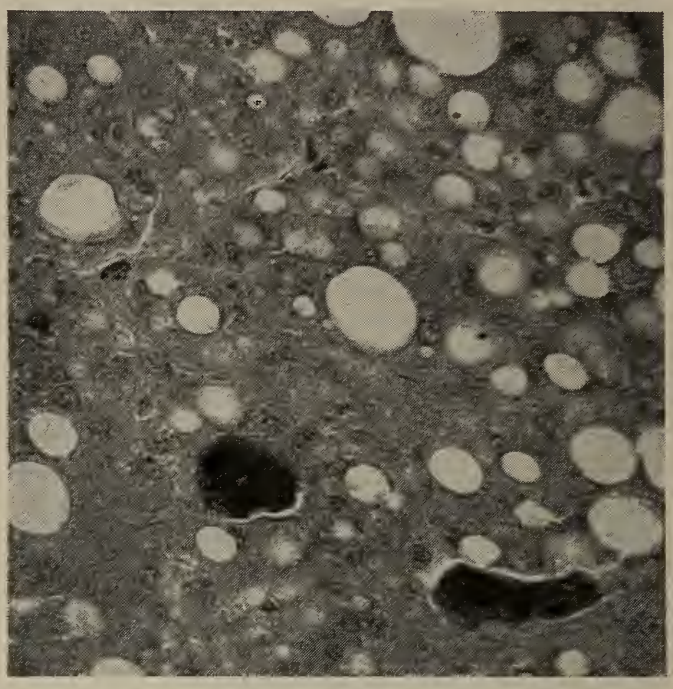

Fig. 5. Large sudanophilic droplets in the liver cells. Two large bile thrombi are present.

The spleen, microscopically, showed thick walled splenic sinuses and could be interpreted as the spleen of early portal and splenic vein hypertension (Banti's spleen). No Gamma-Gandy (siderofibrotic nodules) bodies were seen.

The nature of galactemia with liver cirrhosis is not understood. The theories comprise:

(1) Galactose is a toxin causing hepatic necrosis followed by cirrhosis.

(2) A primary disturbance in galactose metabolism causing interference with carbohydrate and fat enzymatic systems leading to the accumulation of fat in the liver, followed by cirrhosis.

(3) A congenital and familial cirrhosis with the galactemia resulting from inability of the diseased liver to metabolize the galactose.

There have been four autopsies to date on patients with this disorder. Microscopically, our case resambles these. We believe, as a hypothesis, that there may be a disturbance in the content of the bile so that it becomes more viscous and plugs up the bile

ductules, leading to obstruction and biliary cirrhosis of intrahepatic origin. We feel that the galactemia is secondary to the liver damage and not the primary cause of the liver damage. We gave parenterally massive doses of galactose to rabbits over a period of fourteen days, then they were sacrificed. Histological examination of the liver revealed it to be literally "stuffed with glycogen" and no areas of necrosis were seen. Furthermore, we now have one infant of four months of age with congenital absence of the common duct and biliary cirrhosis (observed at operation) who is running a galactosuria.

Since the first description of this entity by von Reuss[1] in 1908, studies of the liver histologically, have been made by Bell[2] and Donnell[3].

Pathological Diagnosis: Galactemia with cirrhosis of liver, splenomegaly, ascites, physical retardation, lipid pneumonia, fatty infiltration of heart.

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Reports Better Results from Intravenous Use of ACTH.

Intravenous injections of ACTH in greatly reduced doses produce equally as good or even better results than larger doses of the drug injected intramuscularly, according to a study made at the Veterans Administration Hospital, Long Beach, Cal.

A joint report on the intravenous use of the hormone was made in June 9 J. A. M. A. by Drs. William Mandel, Michael J. Singer, H. Rudolph Gudmundson, Lester Meister and Frederick W. S. Modern.

The doses used were only one-tenth to one-twentieth of those previously used, the doctors said. Commenting on the results of the treatment of 25 patients, all are responding "adequately," they said:

"No patients were refractory to the hormone when given by this method. There were no patients who relapsed while being treated with adequate doses. There were no patients who were refractory on subsequent treatment."

Subsequently, they treated 20 additional patients and the earlier results were confirmed.

The patients were treated for periods of from two to 42 days for a variety of conditions, including rheumatic arthritis and bronchial asthma.

"Ten patients had previously received the drug in intermittent intramuscular injections," the report said. "In these the response to intravenous infusion of the hormone was usually more prompt and complete. Remissions after cessation of intravenous treatment were generally more prolonged."

The obvious advantage of the intravenous form of administration was its relative economy, they pointed out. However, patients must be followed closely when this method of administration is used, for undesirable side effects may occur more frequently and with greater rapidity. The absence of refractoriness on the part of patients suggests that this condition may be in part related to the mode of administration, they said.

PUBLIC HEALTH

L. J. ROPER, M.D.
State Health Commissioner of Virginia.

The Rabies Problem

According to the Bureau of Animal Industry of the United States Department of Agriculture, there were 7,910 cases of rabies reported in the United States in 1950. The distribution of these cases by species of animal is shown below.

REPORTED CASES OF RABIES IN UNITED STATES—1950

Dogs	Cattle	Cats	Swine	Sheep	Horses	Goats	Misc.*	Man	TOTAL
4,979	948	428	85	48	33	5	1,375	9	7,910

*Miscellaneous includes coyote, fox, rabbit, mice, gopher, ground squirrel, rat, squirrel, skunk, wild cat, raccoon, opossum, mule, ferret, lynx, ox, hamster, civet cat, mole, ground hog, deer. The fox was specified in 152 cases.

The distribution of reported cases in Virginia and adjoining states is shown below:

REPORTED CASES OF RABIES IN VIRGINIA AND ADJOINING STATES—1950

Virginia	North Carolina	Tennessee	Kentucky	West Virginia	Maryland	District of Columbia	Delaware
94	171	284	845	269	3	1	0

The present policy in Virginia in rabies control is to encourage the passage of local suppressive measures when rabies occurs.

The principal suppressive measures advocated during incidence of rabies are:

1. Destruction of all stray dogs.
2. Temporary quarantine of all dogs.
3. Immunization of all dogs.

Since, however, the mad dog or other rabid animal recognizes no political or geographic boundaries, it is becoming increasingly apparent that before rabies can be eliminated in the Nation there must be fairly uniform and efficiently enforced state regulations in all states.

Following dog bites the physician must decide between the relative danger of the development of rabies and the occurrence of serious reactions to vaccine administration.

It is agreed that rabies can be transmitted from rabid animals to man only by the direct inoculation of fresh saliva by means of a bite through the skin.

For guidance in treatment, a rabid animal is defined as one which:

1. Is proved rabid by laboratory examination.
2. Is clinically rabid.
3. Dies from unknown cause (without laboratory examination) within seven days after biting.
4. Disappears after biting—and rabies is present in community.

Even with these criteria in mind, it is not agreed that the administration of anti-rabic vaccine is 100% efficient.

Recently in Illinois, in a rural area with no recent history of rabies, a five year old white girl was bitten on the leg by a stray cat. Laboratory tests were impossible because of the decomposed condition of the head when received at the laboratory. Anti-rabic vaccine therapy was instituted nine days after the bite—clinical symptoms were observed fifteen days after the bite and the child died twenty-one days after the bite. This case demonstrates that rabies infection and death in the human can and does occur despite reasonably prompt administration of anti-rabic vaccine.

Furthermore, it has been demonstrated that there is always some possibility of severe post-vaccination reaction, paralysis and death.

We are brought to the conclusion that the prevention of rabies in man implies its elimination in animal reservoirs. The principal control steps are:

1. The elimination of stray animals.
2. Regular vaccination of household pets.

These measures have proved successful in eradicat-

ing rabies in England and the Scandinavian Countries where the disease was once as common as it is in the United States today.

The Morbidity Report of the Bureau of Communicable Disease Control

	May 1951	May 1950	Jan.-May 1951	Jan.-May 1950
Brucellosis	7	3	27	26
Diarrhea and Dysentery	101	213	852	1,387
Diphtheria	11	4	63	83
Measles	3,047	626	10,208	1,638
Meningitis (Epidemic)	15	9	70	70
Poliomyelitis	1	2	15	15
Rocky Mountain Spotted Fever	7	4	7	4
Scarlet Fever	64	55	578	475
Tularemia	2	0	20	18
Typhoid and Paratyphoid	1	4	19	28

MEDICAL SOCIETY OF VIRGINIA

Public Relations

Doctors Advise Selective Service

The Virginia Advisory Committee to Selective Service was created in the early fall of 1950. Originally appointed by the Governor, the committee is now composed of Dr. J. M. Emmett, Dr. Harvey B. Haag, Dr. Waverley R. Payne, Dr. L. J. Roper, and Dr. W. Henry Street. Dr. Emmett heads the committee of four physicians and the representative of the Dental profession, Dr. Street.

Some difficulty is met in an attempt to define the diverse functions of the Virginia Advisory Committee. However, its basic reason for existence might be agreed upon. In the vast governmental machinery now operating preparatory to national defense, a need naturally arose for professional medical personnel, especially in the armed forces. Coexistent with such military need was the equally important necessity of maintaining reasonable minimum health standards for the civilian population.

The National Advisory Committee to the Selective Service System evolved to effectuate the needed balance. The Virginia Advisory Committee to Selective Service is a component unit of the national set-up.

Functioning in various vantage points throughout the state, the Local Advisory Committees, consisting of nearby practicing physicians, do the bulk of personal study concerning individuals subject to the Selective Service Act. Such local committees advise Dr. Emmett's State Committee which in turn recommends to Selective Service that the particular physician be deferred or not be deferred on the basis of relative essentiality. It is well noted that the Virginia Advisory Committee has no power to defer persons but acts only in an advisory capacity.

On occasions the State Committee is requested to make essentiality recommendations to various branches of the armed forces. This need arises in the case of physicians commissioned by one of such branches or attached to the armed forces reserves.

Public Law 779 provides for the induction of physicians, dentists, veterinarians, and allied specialists as non-commissioned personnel. So long as volunteers for commissions in the Medical Corps meet the military demand, Public Law 779 will not be used, according to Selective Service officials. Second Army records show that Virginia ranks second in the entire military district in proportional number of medical personnel voluntarily accepting commissions. Volunteers receive an additional $100.00 monthly salary.

Since last fall the Committee has made approximately eighty recommendations for deferment of physicians, dentists and veterinarians. Such recommendations were limited to July 1, 1951 in every case. On May 17, 1951 the Advisory Committee met for the purpose of reviewing the eighty odd cases previously processed. Some forty were recommended for extended deferment to expire January 1, 1952.

At the request of the National Advisory Committee the Virginia Committee is presently engaged in processing reserve officers in the several armed forces components. A long range project, the study is devised to show the available reserve strength of all service branches.

Committee members have devoted extensive time and effort in this important phase of defense mobilization without remuneration. A real service is being rendered the civilian population of Virginia as well as the armed services.

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,
Commissioner, Department of Mental Hygiene and Hospitals

The Family Approach to Mental Health*

It is common observation that, closely associated with the patient who has mental disorder, there is apt to be an individual with a rigid, domineering or even punishing personality. Good mental health is primarily a matter of sound interpersonal relationships established first as a child within the family group.

From the emotional security developing within his own psyche, a child reaches out to relate himself to others. As his inner security fails, his interpersonal relationships become unsatisfying, or are destructive to others, or sought solely within the realm of fantasy.

The family is the unit for concern in the problem of these interpersonal relationships, of mental well-being. And the family doctor, by name and tradition, is the first counselor in matters of family health.

Tradition paints the family doctor as a paternalistic gentleman with a goatee. And in our country's folk lore there have been three such benevolent gentlemen with whiskers: Santa Claus, Uncle Sam, and the family doctor. But the specialists have clipped the doctor's whiskers, and Santa Claus has never tried to enter the medical field.

To be a family doctor implies belief in the institution of the family, even the modern one which is pessimistically described as a divorce-ridden, contracept-devoted group of individuals bossed by its meanest member.

Human processes of being born, growing up, mating, and aging are fixed. And equally unchanging through our changing mores are the human emotions of love and possession, parental pride and protection, and grief and despair. These emotions must find their frustrated way to expression through living experience.

The problems they present are the materials confronting the family doctor as a cause or complication of the physical malady he is called upon to treat. It is within his professional judgment to use his own skills to heal the sick, or refer his patient to some specialist. This policy is equally applicable to the emotional factors complicating the disease: problems of personality disturbances, of marital discord, or of difficulties within the child parent relationships.

A mental health center is a combined family and health agency. Back in the days when the family doctor wore a goatee, he had one meek and docile daughter, the trained nurse. She did what she was told, and never talked back to her old man. Now he has a second daughter, the social worker. She is a flip young thing who defies all traditions and questions the unquestionables in life. But she is a smart girl who is educated and capable, and she is devoted to the same problems of interpersonal relationships as those complicating the medical ones her old man is treating.

In the past, the social work field has been a catch all for the untrained: a genteel means of livelihood for the socially prominent widow without funds, a play thing for the politically ambitious woman who is not capable of meeting the challenge of dynamic relationships within her own home, or a vicarious form of feeling for the sexually frustrated. The social work field to-day is led by trained men and women of integrity who have learned how to define the scope of their profession and work within the limitations of its skills and disciplines. Their contribution to treatment is primarily in a social work study of the personality interrelationships. As the patient is helped to adjust to reality problems in his life situation, the sounder elements of his personality are strengthened. He becomes a stronger, healthier person, more confident of his ability to direct his own life. The problem for the doctor and the social worker is one of accepting each other's point of view without damaging the professional standard of either one.

Mental health centers have a four fold approach. The first is the family doctor who instigates or seconds the referral. It is his job to help correlate the policy of the mental health center to the needs of his community. The examinations and treatments of the patients referred are in the hands of the special-

*Article prepared by Faith F. Gordon, M.D., Psychiatrist Director, Lynchburg Area Guidance Center.

ists at the center, and beyond his province to direct as they would be if he were consulting other specialties.

The three fold approach within the mental health center is headed by another physician, the psychiatrist. With the psychiatric social worker and the clinical psychologist, the team members work within the scope of their specialized professional training.

Emotional maladjustments resulting in problems of interpersonal relationships make up the major part of the treatment load of any mental health center. The problems are a family matter because of the family concern for the well being of one of its members, and because the interplay of feeling within the family group grooves the course of the symptoms. And a return to good mental health will require work on the part of the other members of the family as well as the patient and his therapist.

BOOK ANNOUNCEMENTS

Patterns of Disease. On A Basis of Physiologic Pathology. By FRANK L. APPERLY, M.A., M.D. (Oxford), D. Sc. (Melbourne), F.R.C.P. (London), Professor of Pathology, Medical College of Virginia, Richmond, Virginia. J. P. Lippincott Company, Philadelphia. 1951. xiii-456 pages. 50 figures and 37 charts. Price $8.00.

Cancer As I See It. By HENRY W. ABELMANN, M.D., Chicago, Ill. Philosophical Library, New York. 1951. 100 pages. Cloth. Price $2.75.

Handbook of Pediatric Medical Emergencies. By ADOLPH G. DeSANCTIS, M.D., Professor of Pediatrics and Chairman of the Department of Pediatrics, Post-Graduate Medical School, New York University-Bellevue Medical Center; Director of Pediatrics, University Hospital and Gouverneur Hospital, New York City. And CHARLES VARGA, M.D., Instructor in Pediatrics, Post-Graduate Medical School, New York University-Bellevue Medical Center; Assistant Attending Pediatrician, University Hospital and Gouverneur Hospital, New York City. St. Louis, The C. V. Mosby Company. 1951. 284 pages. With 51 illustrations. Cloth. Price $5.00.

Vitamin E. Annotated Bibliography 1940 to 1950. By PHILIP L. HARRIS and WILMA KUJAWSKI. The National Vitamin Foundation, Inc., New York, N. Y. 184 pages. Paper. Price $3.00.

Modern Foot Therapy. By R. H. GROSS, Pod.D., in collaboration with H. L. DU VRIES, M.D., S. L. ROBBINS, M.D., C. R. KRAUSZ, D.S.C., and L. E. WILSON, M.D. Edited by M. J. LEWI, M.D., pp. 720, illustrations 200. Price $9.50. New York; Modern Foot Therapy Publishers, 1948.

A different type of text has been written trying to encompass the whole field of foot therapy. The effort has been satisfactory as the volume is indeed a credit to modern chiropody. Its many contributors have in the thoroughness of their work met a need by bringing together within one binding all those various aspects of foot therapy for which it was necessary for the general practitioner to turn to individual volumes, many of which have not been adequately slanted for the specialty of the foot.

This book serves as the third edition of the "Practice of Podiatry", and each of its thirty sections has been written by an authority in that specific field. Physicians, as well as chiropodists, have contributed. The chapters, easily read, include differential diagnosis in detail; arthritis; peripheral vascular diseases; the newer antibiotics including penicillin, tyrothricin and streptomycin; gait analysis; verruca injection with a consideration of various technics and medications; minor surgery of the foot with instructions for post-operative care as well as the actual surgery; clinical photography with basic details; focal infection and dysbasia pododynia, a new and exciting concept of foot dynamics. The chapters on foot orthopedic and dermatological conditions are adequately covered for this broad field. This is the first text that stimulates the reader's interest in modern chiropodys approach to pediatric, geriatric and diabetic foot care. The inclusion of the latter is commendable because it was as a result of specialized diabetic foot care that chiropody has received the recognition of the medical profession. There are a good cross index, bibliographies of references and biographies of contributors.

"Modern Foot Therapy" is recommended not only as an excellent text for the student, but truly provides for the practitioner all that is new and valuable in treatment of diseases of the foot. It is indeed a book that the general practitioner can use for ready reference to obtain in a short time a concise and compact account of almost any clinical entity in modern chiropody.

A. P.

EDITORIALS

Joseph L. Miller

IN BRINGING this series to a close, I am breaking a rule that I laid down for myself in the beginning. When some months ago I began this series of sketches in righteous indignation at the villainous attacks on doctors and their motives by Mr. Oscar Ewing in his propaganda for compulsory health insurance, I decided not to use as my subject anyone who was still alive. I had a feeling that it would be as embarrassing as, for instance, an old man telling a handsome woman to her face that she had wonderful eyes, or beautiful teeth or lovely hair. He could look at her with admiration without giving offense but to put that admiration into words might be quite another matter. So I hope Dr. Miller will forgive me for breaking my rule in his case.

Dr. Miller is such a beautiful example of a general practitioner who has led a busy, useful life in an-out-of-the-way place and at the same time earned for himself a nation wide reputation on account of his work on cultural medicine. He has made no discovery that has saved the lives of millions of people, as some of my medical worthies have, nor has he opened up new fields of medicine, but he has saved his hundreds, by his own skill and knowledge and he and his like have earned the gratitude of the public by their devotion to duty in places where it is generally thought the chances for fame and fortune are slim. But is this really so? Even in my small collection of medical heroes, Jenner was a country doctor, and Koch began his epoch-making discoveries as a general practitioner. Ephraim McDowell and John Peter Mettauer were country surgeons.

Like many of the subjects of these sketches, Dr. Miller is a Virginian, born October 10, 1875, in Macon County, West Virginia, of Virginia parents. He graduated in medicine from the University College of Medicine in 1900. While a student in Richmond he began his great collection of medical books and illustrations with the purchase of Dr. James McClurg's student's notes of Thomas Young's lectures on midwifery at Edinburgh, 1769-70. Dr. Young was professor of midwifery at Edinburgh and Dr. McClurg was the first president of the Medical Society of Virginia. A note on the fly leaf of the MS, in Dr. Miller's handwriting states that he paid 25 cents for the volume and that he had it bound in Morocco by Reese David.

Upon graduation, Dr. Miller took a contract practice with a coal mining company as the quickest way to make some money to pay for his medical education. He has been in Thomas, West Virginia, ever since. He has put Thomas on the map, at least in certain European circles. The story is told in Richmond that when his oldest son married, his employer, the Holland American Steamship Line, gave him a trip to Europe as a wedding present. On his way home, young Mr. Miller stopped off in London to get his father a present. He went to a rare book shop and picked out a volume for five pounds, and asked the dealer if he could mail it, as his luggage was all packed up. When he wrote on a card "Dr. Joseph L. Miller, Thomas, West Virginia," the dealer said "Your father has this book", and found a less expensive one that he thought his father would like. Dr. Miller, himself, told me a story on Dr. Friedenwald that illustrates the same point. It seems that Dr. Miller was in Baltimore to read a paper on some historic subject. After the meeting Dr. Friedenwald had a group around to his home. They were sitting in his rare book room and naturally talking about old medicine. Dr. Friedenwald showed an old book and remarked that he had been trying to find a portrait of the author and had a standing order with all the dealers in Europe.

"I have one", said Dr. Miller, "and will be glad to send it to you when I get home." Dr. Friedenwald could not believe it until he actually got the picture. For years Italian dealers had been sending Dr. Miller a bale of pictures about once a year and Dr. Miller would take what he wanted and return the balance.

I once asked Dr. Miller if he had ever been to Europe and he replied that he had never had time to get away from Thomas, West Virginia. That is not literally true for I know that he has delivered lectures on old medicine at the Mayo Clinic as well as Omaha, Nebraska, Kansas City, Birmingham, Vanderbilt University, the Chirurgical Faculty of Maryland and the College of Physicians of Philadelphia. He was Founder's Day orator at the Medical College of Virginia in 1928.

Dr. Miller signs up his assistants for three years, for he says that is long enough. If the assistant is no good he wants to get rid of him in that time and, if he is good, he does not want the boy to be "stuck" in a mining town as he was. The people in Thomas, of course, do not share this view.

Thomas, West Virginia is a dusty coal mining town of two streets. When you drive along the upper streets you can look down the chimneys of the houses facing the lower street. One of my most cherished memories is a visit I paid him shortly after he gave the most valuable part of his library to the Richmond Academy of Medicine on condition that it would build a fire proof building in which to house the books. His gift was the cause of the Academy building a home for itself.

Dr. Miller is a widower and his children have started homes of their own in more congenial climes. The doctor lives alone in a flat above the drug store. A flight of outside steps leads to his door and to the Odd Fellows Hall on the third floor. He takes his meals at the hotel next door.

Mrs. Rucker and I drove up one day in the summer, arriving in the late afternoon. The windows of his flat were covered with coal dust blackened cotton sheeting, altogether a dismal setting, but we were in for the surprise of our lives. Something on the order of an Arabian nights transformation greeted us when Dr. Miller opened his door. The flat was furnished with beautiful old mahogany and good oil paintings and miniatures of the Miller family. Everywhere there were book cases bulging with rare books. After supper at the hotel, Dr. Miller began to show us his treasures. At first he brought out examples of fore edge painting and beautiful bindings. Mrs. Rucker, being tired from her long drive, retired early. Dr. Miller then showed his important medical items. It seemed to me that he still had an important library after having sent his best books to the Richmond Academy of Medicine. I remember his saying that he wished he could come back after he died and hear what was said at the auction of his books. He not only loves his books but he knows them. Many of them have a note pasted in the back to show the place the book occupied in the history of medicine or a short note about the author. Sometimes this is a clipping from the dealer's catalogues and sometimes it is a note in Dr. Miller's handwriting. In the *de Fabrica* of 1555, one of the books he gave the Academy, he has written a biographical note on every owner from Vesalius' time to the Richmond Academy of Medicine. This was not such a formidable task as it would appear at first glance for the owners of such a book were of necessity important personages with book plates which they had pasted inside the pigskin cover.

Thus we had a grand night and neither had any notion of going to bed until the wee small hours of the morning. Dr. Miller has developed a wonderful hobby for the evening of life. As he sits among his books, his spirit knows no boundaries of time or space.

Jowett, in the introduction to the Dialogues of Plato, describes the philosopher as "the spectator of all time and all existence. He has the noblest gifts of nature, and makes the highest use of them. All his desires are absorbed in the love of wisdom, which is the love of truth. None of the graces of a beautiful soul are wanting in him; neither can he fear death, or think much of human life."

Hippocratic Oath

I swear by Apollo the physician, and Æsculapius, and Health, and All-heal, and all the gods and goddesses, that, according to my ability and judgment, I will keep this Oath and this stipulation—to reckon him who taught me this Art equally dear to me as my parents, to share my substance with him, and relieve his necessities if required; to look upon his offspring in the same footing as my own brothers, and to teach them this art, if they wish to learn it, without fee or stipulation; and that by precept, lecture, and every other mode of instruction, I will impart a knowledge of the Art to my own sons, and those of my teachers, and to disciples bound by a stipulation and oath according to the law of medicine, but to none others. I will follow that system of regimen which according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to any one if asked, nor suggest any such counsel; and in like manner I will not give to a woman a pessary to produce abortion. With purity and with holiness I will pass my life and practice my Art. I will not cut persons laboring under the stone, but will leave this to be done by men who are practitioners of this work. Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption; and, further, from the seduction of females or males, of freemen and slaves. Whatever, in connection with my professional practice or not in connection with it, I see or hear, in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this Oath unviolated, may it be granted to me to enjoy life and the practice of the art, respected by all men, in all times! But should I trespass and violate this Oath, may the reverse be my lot!

MEDICAL CLASSICS, 3:viii, 1938-39.

How many have read this medical classic? How many subscribed to it when they graduated in medicine? Formerly, taking the Oath of Hippocrates was as much a part of the graduation exercises in medicine as the defending a thesis was a part of the final examination. The public still thinks that every doctor subscribes to the Oath when he receives his M.D. degree. The only issue that has, so far, been tried by the Grievance Committee of the Medical Society of Virginia involved a reputed violation of the Oath. There was no question of fees or overcharging, for the complainant had not been a patient of the doctor who was being tried. She based her complaint upon the assertion that the doctor violated the Oath which he took when he graduated in medicine, in that he divulged a private conversation to her lawyer. None of the Committee knew about the "or not" in the phrase "Whatever, in connection with my professional practice *or not* in connection with it, I see or hear in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret." We thought that the Oath applied only to privileged communications in

the doctor-patient relationship. We were gratified that the public put so much store by the Oath.

As a matter of fact, while the Oath has been eliminated from the graduation exercises, every doctor subscribes to the Oath in principle when he joins the American Medical Association, for the Code of Ethics of the Association is based upon the Hippocratic Oath.

The World Medical Association has revised and modernized the Hippocratic Oath to cover such new developments as the Nazi medical crimes in the concentration camps in World War II. It is called the Geneva Oath, and must be subscribed to by each component society. It is further recommended that it be read by every doctor on receipt of his diploma to help impress upon him the "fundamental principles of medical ethics". It reads as follows: "Now being admitted to the profession of medicine, I solemnly pledge to consecrate my life to the service of humanity. I will give respect and gratitude to my deserving teachers. I will practice medicine with conscience and dignity. The health and life of my patient will be my first consideration. I will hold in confidence all that my patient confides in me.

"I will maintain the honor and the noble traditions of the medical profession. My colleagues will be my brothers. I will not permit consideration of race, religion, nationality, party politics or social standing to intervene between my duty and my patient. I will maintain the utmost respect for human life from the time of conception. Even under threat I will not use my knowledge contrary to the laws of humanity.

"These promises I make freely and upon my honor."

Dr. Henri Vignes

DOCTEUR Henri Vignes, Ancien Professeur a la Faculté de médecine de Paris, Accoucheur-Gynécologue Honoraire des Hopitaux, Professeur Honoraire a l'Ecole d'Anthropologie, Officier de la Légion d'Honneur, Croix de Guerre 1914-18, died at Poitiers March 15, 1951 in his 67th year. He was Co-Director of *Gynécologie et Obstétrique,* and a member of the editorial board of *Progrés médical, Journal des Praticiens, Semaine des hôpitaux, Sciences médicales, Revue de Pathologie comparée, Bulletin général de Thérapeutique, Revue de météorologie médicale, and Annales médico-chirurgicales.* He was also a regular contributor to *Presse médicale, Concours médical, and Revue sud-américaine de médicine et de chirurgie.*

Dr. Vignes was the author of a number of worth-while books on obstetrics and gynecology, notably "Physiologie obstétrical normale et pathologique" *Paris* 1923, "Physiologie gynécologique et médecine des femmes" *Paris* 1929., "Maladies des femmes encientes I Affections de tube digestif." (with G. Lauret & P. Olivier-Pallud) *Paris* 1935, "Maladies des femmes enceintes II Affections du foie, du pancréas maladies de la nutrition parois abdominales, péritoine" (with G. Lauret, Jean Olivier and P. Olivier-Pallud) *Paris* 1935, "Éclampsie et Éclampsisme" *Paris* 1948.

Since his graduation in medicine in 1914 with a thesis "Notes et recherches sur la menstruation", he has occupied a prominent place in French gynecology and obstetrics. We have for years been epistolary friends, ever since, in fact, the publication of our first article upon uterine contraction, when he wrote us a complimentary letter, and sent us a copy of his first book. He will be greatly missed in obstetrical circles.

Lonsdale J. Roper (1886-1951)

DR. L. J. ROPER, State Health Commissioner, died in the early morning hours of June 12th, of coronary thrombosis. He had an attack in January 1947, from which he made a good recovery. Except for some curtailment of certain physical activities he seemed as well as ever until June first, when he went to the hospital on account of a more serious attack.

Dr. Roper was born in New York, March 28, 1886. When he was six months old, his family moved to Norfolk County, and he has been identified with Virginia ever since. He attended William and Mary College and the University College of Medicine. He graduated in Medicine in 1907 and interned at the King's Daughters Hospital in Portsmouth. He engaged in private practice for a number of years and was coroner of Norfolk County during that time.

Dr. Roper was always civic minded and in Portsmouth he took great interest in the Kiwanis Club of which he was president at one time. In 1936 he was governor of the Capital District. He was honorary Life Member of the Portsmouth Club. He was largely instrumental in the founding of the Fresh Air Farm operated by the Portsmouth Kiwanians for underprivileged children. He was a thirty-second degree Mason, a member of the Scottish Rite and the Shriner's Khedive Temple in Norfolk. In World War I, he was a major in the Medical Corps.

In 1919, Dr. Roper began his career in public health with the establishment of Portsmouth's first city health department. In 1937 he became director of the venereal disease division of the State Health Department and the next year he was put in charge of the department's rural health division. In August 1946 the Governor made him Health Commissioner. He brought to that position a background of general practice. He had the firm conviction that in public health the cooperation of the practicing physicians was important. In his administration he adhered to that position and he had the whole hearted cooperation of the profession. That he had a remarkably successful administration, every one will agree.

He was a member of the American Medical Association, the Southern Medical Association, and the Richmond Academy of Medicine. He was an active fellow of the American Public Health Association and was president of the State and Provincial Health Administrators of North America.

In the Medical Society of Virginia he was a worker and, since the Health Commissioner is an ex-officio member of the Council, he had plenty of opportunity. He attended every meeting of that body and engaged in active discussions of many questions. He was a member of about one-half of the special committees of the Society. He will be greatly missed in its deliberations.

Dr. Roper is survived by his wife, Mrs. Florence Leslie Roper, a former superintendent of nurses at the King's Daughters Hospital in Portsmouth.

THE PRESIDENT'S MESSAGE

IN THE passing of our Executive Secretary and Public Relations Director, Mr. Henry S. Johnson, the Medical Society of Virginia has lost a valuable and loyal Executive. His place will be hard and very difficult to fill. I had begun to rely upon Mr. Johnson and his judgment and had looked forward to an easy and smooth-sailing administration. Instead a calamity has struck me.

I appointed Mr. Richard Nash, Mr. Johnson's assistant, as acting Executive Secretary until other arrangements can be made. To date, I have seven applications with numerous recommendations from throughout the state. I find the decision most too difficult for your President to make.

I have appointed a special committee to review the applications and interview the applicants and make their recommendations to the Council.

On this committee, I have named Dr. Vincent W. Archer as chairman. Dr. John T. T. Hundley, President-Elect, Dr. Guy W. Horsley of Richmond, and Dr. John M. Emmett, chairman of the Public Relations Committee.

A few months ago we appealed to the Councilors of each district to check on the number of physicians in their district to see how many, if any, are eligible to join the State Society. To date we have only heard from two districts. I appeal to you to make this check immediately. I personally feel that every qualified physician should be a member of his local and state medical society. He needs us and we need him. When a physician is trying to join any kind of organization outside of medicine, or to secure an important position, the first question they wish to know is "Are you a member of your local and state medical society?"

To chairmen of committees: Please call your committees together, lay your plans and have your report in the office preferably by July 15, but not later than August 1. Otherwise, they will not be printed in the Journal. The Special committees are a very vital part of any medical society, but they do not accomplish very much unless the reports are published and can be read and studied by the membership.

Councilors and Secretaries of local societies: Please check your membership to see if 1951 A.M.A. membership dues have been paid. We came near losing one of our delegates last year because we did not have sufficient paid members; unless they are paid up promptly, we run the chance of losing one yet.

To the members: Please check your reception room table to see if TODAY'S HEALTH is there. As this is one of the official publications of the American Medical Association, I feel that it is important and essential that physicians should support this journal. It brings a message to the layman that he would not get otherwise.

C. L. Harrell, M.D.

SOCIETY PROCEEDINGS

The Warwick County Medical Society

Had a meeting on May 8, at the James River Country Club. There were 53 members and 2 guests present. Applications for membership were approved for Dr. Frank S. Beazlie, Jr., Dr. F. Ashton Carmines, and Dr. W. James Baggs.

Dr. W. W. Anderson, Jr., of Newport News, introduced the speaker, Dr. J. L. Calloway, Professor of Dermatology and Syphilology at Duke University, Durham, who spoke on "Contact and Therapeutic Dermatitis."

O. W. BOOTH,
Secretary-Treasurer

The Wise County Medical Society

Met May 9, at Hotel Norton.

The recent Kick Back of amounts paid for glasses and other EENT equipment was discussed. We could find no indication of this being any problem here.

Dr. N. J. Chew, Bristol, spoke on Experiences with Cortisone. Discussion followed. He thought ACTH and Cortisone about equal with ease of administration, especially since Cortisone can now be given orally, which makes Cortisone preferred in many cases. When either fails or proves undesirable he switches to the other.

Wyeth's latest cinema talkie—highlights of recent World Medical Conference in New York—held close attention for 35 minutes.

The Red Cross Blood Bank plan was approved and we shall co-operate.

Dr. F. B. Robinson, Oxford, Pa., and six visiting doctors from this area were guests. There was an attendance of twenty-nine. The President, Dr. George F. Sutherland, presided.

The next meeting will be on August 8th at Norton.

T. J. TUDOR,
Secretary

The Lynchburg Academy of Medicine

Held its regular monthly meeting on April 9th. This was a joint dinner meeting with the Lynchburg Pharmaceutical Society and was held at Oakwood Country Club. The guest speaker was Dr. Harvey B. Haag, Richmond, who spoke on "Relations Between Doctors and Druggists".

NEWS

Commencements of Medical Schools.

MEDICAL COLLEGE OF VIRGINIA.

The closing exercises of the College were opened Sunday evening, June 3, with Dr. Theodore F. Adams, of the First Baptist Church, preaching the baccalaureate sermon. The annual meeting of the Alumni Association was held on the 4th, with the social hour and banquet of the alumni that evening. A buffet luncheon for the Board of Visitors, faculty, graduates, parents, and friends was on Tuesday at the Social Center, with the commencement exercises that evening at the Mosque, followed by a reception and dance at the John Marshall Hotel.

Names of the graduates in medicine with hospital appointments follow:

MEDICAL COLLEGE OF VIRGINIA HOSPITAL, Richmond—Drs. Emma Jane Freeman, Adrian, W. Va.; Robert Finley Gayle, III, Richmond; Luther Johnston Hamlett, Ripplemead; Andrew Epes Harris, Jr., Blackstone; Francis Hunter McMullan, Richmond; Erma Jean Marra, Morgantown, W. Va.; Levi Old, Jr., London Bridge; Earl Elmore Roles, Jr., Lillybrook, W. Va.; Carl James Roncaglione, Amonate; Bernard Manuel Savage, Richmond; Victor Skorapa, Jr., Richmond; Julian Weinstein, Richmond; Yale Howard Zimberg, Richmond.

JOHNSTON-WILLIS HOSPITAL, Richmond—Drs. Lewis Bailey Hasty, Roanoke Rapids, N. C.; Edward Paul Jones, Mill Creek, W. Va.; Edward Arthur Lewis, Aylett; Henry Reece Little, Jr., Altavista; Arthur Joseph Martin, Richmond; Arthur Wainhouse Downing Mears, Belle Haven.

STUART CIRCLE HOSPITAL, Richmond—Drs. Aubrey Alphin Houser, Jr., Richmond; Homer Delmar Martin, Montrose, W. Va.; Norman Rock Tingle, Richmond.

LEWIS-GALE HOSPITAL, Roanoke—Drs. William Jasper Berry, Oak Hill, W. Va.; Ernest Jackson Kef-

fer, Jr., Roanoke; Joseph Frederick McGuire, Grundy.

Roanoke Memorial and Crippled Children's Hospital, Roanoke—Dr. John David French, Bluefield, W. Va.

Norfolk General Hospital, Norfolk—Drs. Walter Morris Brady, Lynchburg; Martel Jennings Dailey, Tye River; Norman Nash Hill, Jr., Norfolk; Walter Stanley Jennings, Fentress; Jesse Miller Tucker, Jr., Richmond.

DePaul Hospital, Norfolk—Drs. William Francis Gibbs, Norfolk; Matthew Christopher Glynn, Jr., Portsmouth; Louis Henry Keffer, Jr., Portsmouth; Brooke Miller Moffett, Washington; Robert Macon Phillips, Colonial Heights; Philip Randolph Thomas, Richmond.

Winchester Memorial Hospital, Winchester—Drs. Philip Winston Cowherd, Jr., Glade Spring; Oscar Bruton Darden, Jr., Richmond; William John Hotchkiss, Meyersdale, Pa.

Riverside County Hospital, Arlington, Calif.—Dr. Hubert Elmore Batten, Portsmouth.

Presyterian Hospital, Santurce, Puerto Rico—Dr. Carlos S. Berrocal, Mayaguez, Puerto Rico.

San Juan City Hospital, San Juan, Puerto Rico—Dr. Angelo Ismael Portela, Arecibo, Puerto Rico.

St. Mary's Hospital, Huntington, W. Va.—Drs. Ralph Harold Boone, Wheeling, W. Va.; Ralph Burton Burner, Philippi, W. Va.; David Sheffer Clark, Huntington, W. Va.

Charleston General Hospital, Charleston, W. Va.—Drs. James David Brown, Craigsville, W. Va.; Preston Caldwell Davis, Beckley, W. Va.; John McClure Grubb, Charleston, W. Va.; William Dane Irvine, Lewisburg, W. Va.; Wilmer Grey Oliphant, Mount Hope, W. Va.; Paul Ernest Totten, Charleston, W. Va.; Robert Frederick Willis, East Bank, W. Va.; James Earl Wotring, Morgantown, W. Va.

St. Joseph's Hospital, Phoenix, Arizona—Dr. John Fremont Bos, Buckhannon, W. Va.

Touro Infirmary, New Orleans, La.—Dr. Courtney Cox Bowen, Tazewell.

Charity Hospital, New Orleans, La.—Dr. Allan Campbell Oglesby, Richmond.

State of Wisconsin General Hospital, Madison, Wis.—Drs. Miriam Willena Carmichael, Richmond; Charles Gordon Spivey, Jr., Columbia, S. C.

Michael Reese Hospital, Chicago—Dr. William Agee Cook, Jr., Madison Heights.

University of Pittsburgh Medical Center, Pittsburgh, Pa.—Dr. Merle Burton Davis, Fairmont, W. Va.

St. Francis Hospital, Pittsburgh, Pa.—Drs. Elmer Francis McHugh, Morgantown, W. Va.; Albert Martin Valentine, Morgantown, W. Va.

Robert Packer Hospital, Sayre, Pa.—Dr. John L. Fairly, Jr., Richmond.

Philadelphia General Hospital, Philadelphia—Dr. William Calvin Grigsby, Jr., Bristol.

Good Samaritan Hospital, Portland, Ore.—Dr. Julia Cecil Dickinson, Richmond.

Jackson Memorial Hospital, Miami, Fla.—Drs. Calvin Hunter Frazier, Huntington, W. Va.; Frederick Ashley Gunion, Coral Gables, Fla., Abraham Lowell Newman, Phoebus; Paul Eugene Shutts, Vienna, W. Va.

Detroit Receiving Hospital, Detroit, Mich.—Dr. Richard Kelly Greenbank, Richmond.

Henry Ford Hospital, Detroit, Mich.—Dr. Clarence Edwin Hicks, Spring Hill, W. Va.

Broadlawns Polk County Hospital, Des Moines, Iowa—Drs. Thomas Henry Jennings, Appomattox; Robert Frederick Schnabel, Huntington, W. Va.

James Walker Memorial Hospital, Wilmington, N. C.—Dr. Joseph J. Lindley, Snow Camp, N. C.

Rex Hospital, Raleigh, N. C.—Dr. Joe Watson Trent, Ft. Blackmore.

Worcester Memorial Hospital, Worcester, Mass.—Drs. Thomas Day McCahill, Portsmouth; Edward Woodward, Jr., Staunton.

Cincinnati General Hospital, Cincinnati—Dr. Harold Wilbur Miller, Jr., Woodstock.

Flushing Hospital and Dispensary, Flushing, N. Y.—Dr. Pamela Ross Moore, Lewisburg, W. Va.

St. Louis City Hospital, St. Louis—Dr. James Lee Northington, LaCrosse.

Beth Israel Hospital, Boston, Mass.—Dr. Albert Julian Wasserman, Richmond.

University of Minnesota Hospital, Minneapolis—Dr. Harry Charles Walker, Jr., Richmond.

William Beaumont General Hospital, El Paso, Texas—Dr. Edward Henry Currie, Charlotte, N. C.

U. S. Naval Hospital, San Diego, Calif.—Dr. Joseph Herbert Britton, Richmond.

U. S. NAVAL HOSPITAL, Great Lakes, Ill.—Dr. Fred Ray Edens, Norton.

U. S. NAVAL HOSPITAL, Portsmouth, Va.—Drs. Donald Frank Fletcher, Jr., Horsey; Joseph Emory Mathias, Clarksburg, W. Va.; Garnett Bailey Moneymaker, Clifton Forge; Robert Albion Repass, Bristol.

U. S. NAVAL HOSPITAL, St. Albans, L.I., N.Y.—Dr. Virginius Archer Marks, Hopewell.

U. S. MARINE HOSPITAL, San Francisco—Dr. William Edward Newby, Richmond.

WALTER REED GENERAL HOSPITAL, Washington—Dr. Charles Lankford Randolph, Jr., Richmond.

BROOKE GENERAL HOSPITAL, San Antonio, Texas—Dr. Harold Thomas Turner, Norfolk.

Dr. Frances Nunley Milam Stoneburner, Sutherlin, no appointment named.

UNIVERSITY OF VIRGINIA, DEPARTMENT OF MEDICINE.

The final celebration of the University classes of 1951 started June 8th, with a meeting of the Medical Alumni and the graduation exercises for all departments were held on the 11th. Dr. Frederick Wilkie of New York, vice-president, presided at the alumni meeting in the absence of the president, Dr. Alfred R. Shands of Wilmington, Delaware, who was in Europe. Later Dr. Wilkie succeeded to the presidency and Dr. Carrington Williams of Richmond was made vice-president. Following the final exercises, President and Mrs. Darden were hosts to graduates, their relatives and friends at a reception at their home.

The graduates in medicine with hospital appointments are:

UNIVERSITY OF VIRGINIA HOSPITAL, Charlottesville—Drs. Charles Coleman Donegan, Jr., Newport News; Warren Dunlap Elliott, Scranton, Pa.; Clifford Henry Fix, Lynchburg; Austin Taber Hyde, Jr., Damascus; Herbert Claiborne Jones, Jr., Petersburg; James Walter Stone, Lynchburg; William Harold Stout, Charlottesville; Henry Morse Tanner, Jr., La Crosse; Richard Norvell Taylor, Charlottesville; William Puller Wharton, Lexington; Harry Robert Yates, Jr., Roanoke.

NORFOLK GENERAL HOSPITAL, Norfolk—Dr. Evan Hamilton Ashby, Jr., Remington.

DEPAUL HOSPITAL, Norfolk—Dr. Albert McCray Jones, Norfolk.

MEMORIAL AND CRIPPLED CHILDREN'S HOSPITAL, Roanoke—Dr. Russell Smith, Charlottesville.

KING'S COUNTY HOSPITAL, Brooklyn, N. Y.—Drs. Albert Harold Arenowitz, Newport News; Bernard Oseroff, Norfolk.

BROOKLYN JEWISH HOSPITAL, Brooklyn, N. Y.—Drs. Seymour Brenner, Brooklyn; Albert Isadore Strauss, Brooklyn.

NEW YORK HOSPITAL, New York—Dr. Frank Nash Bilisoly, III, Portsmouth.

POSTGRADUATE HOSPITAL, New York—Dr. Harvey Jerome Breit, Norfolk.

ST. VINCENT'S HOSPITAL, New York—Drs. Ira Marshall Cantin, Virginia Beach; Paul Sabak Derian, New York.

ST. LUKE'S HOSPITAL, New York—Dr. Thomas Mahlon Wright, Upper Montclair, N. J.

MORRISANIA CITY HOSPITAL, Bronx, N. Y.—Dr. Leonard Ned Ebin, New York.

STRONG MEMORIAL HOSPITAL, Rochester, N. Y.—Dr. Moffett Robson Walker, Jr., Petersburg.

UNIVERSITY HOSPITALS OF CLEVELAND, LAKESIDE HOSPITAL, Cleveland—Dr. Lewis Booker, New Castle, Del.

JEFFERSON-HILLMAN HOSPITAL, Birmingham, Ala.—Drs. John Chalkley Buchanan, Clintwood; Wilfred Qualls Cole, Jr., Jackson, Miss.; Charles Theodore Harris, Jr., Salisbury, N. C.; Allan Hammett Jefferies, Alexandria; Richard Bennett Meriwether, Sanford, Fla.; William Herman Pifer, Winchester; John Miles Stirewalt, New Market.

MEMORIAL HOSPITAL, Wilmington, Del.—Dr. Floyd Woodson Carneal, Jr., Hampton.

VIRGINIA MASON HOSPITAL, Seattle—Dr. Wallace Alexander Coburn, Seattle.

JAMES WALKER MEMORIAL HOSPITAL, Wilmington, N. C.—Dr. William Templeton Davis, Charlottesville.

BOWMAN-GRAY SCHOOL OF MEDICINE, Winston-Salem, N. C.—Dr. Frank Hutchinson Hamilton, Jr., Rock Hill, S. C.

EMORY UNIVERSITY HOSPITAL, Atlanta, Ga.—Dr. William Stribling Dingledine, Harrisonburg.

SINAI HOSPITAL, Baltimore—Dr. Adolphe Max Ehrenworth, Norfolk.

BALTIMORE CITY HOSPITALS, Baltimore—Dr. James Moultrie Lee, Savannah, Ga.

JOHNS HOPKINS HOSPITAL, Baltimore—Dr. Joseph Humphries Magee, Lexington.

Charity Hospital, New Orleans—Drs. John Breckinridge Gorman, Lynchburg; Edsel Ford Stewart, Osyka, Miss.

Hotel Dieu, New Orleans—Dr. Jose A. Semidey, Charlottesville.

Massachusetts Memorial Hospitals, Boston—Drs. James Dunn Mason, Jr., Petersburg; William Taylor Tucker, Franklin.

Peter Bent Brigham Hospital, Boston—Dr. Charles Henry Sackett, Lynchburg.

Boston City Hospital, Boston—Dr. Foxhall Parker Thornton, Jr., Franklin.

Presbyterian Hospital, Chicago—Dr. Robert Traylor Helmen, South Bend, Ind.

St. Luke's Hospital, Chicago — Drs. Durell Boyd Horsley, Schuyler; William Henry Sipe, Harrisonburg.

Philadelphia General Hospital, Philadelphia —Dr. Philip Kearney Hensel, Camp Hill, Pa.

Graduate Hospital of University of Pa., Philadelphia—Dr. Philip George Spaeth, Philadelphia.

Sewickley Valley Hospital, Sewickley, Pa.—Drs. Lawrence Perry Hyde, Buchanan; Edward Jordan Stoll, Arlington.

Barnes Hospital, St. Louis—Dr. William Francis McGuire, Clifton Forge.

Baptist Memorial Hospital, Memphis, Tenn. —Dr. Charles Samuel Miller, Elkton.

Tampa Municipal Hospital, Tampa, Fla.—Dr. Andrew Christmond Mitchell, Bristol.

Roper Hospital, Charleston, S. C.—Dr. Harry Hawthorne Robinson, Jr., Charlottesville.

George Washington University Hospital, Washington—Dr. Joseph Lee Sedwitz, Youngstown, Ohio.

University of Oklahoma, Oklahoma City Hospital, Oklahoma City—Dr. James David Wilson, Clifton Forge.

Gorgas Memorial Hospital, Ancon, C. Z.—Dr. Anthony James Grieco, Charlottesville.

U.S. Navy Hospital, Pensacola, Fla.—Dr. Ratcliffe Cox Barnes, New Kent.

U.S. Naval Hospital, Portsmouth—Drs. Mayland Richard Bennett, Charlottesville; Raymond Keith Brown, Warrenton.

San Francisco Marine Hospital, San Francisco—Dr. Cyrus Creston Farrow, Jr., Richmond.

Stapleton Marine Hospital, Staten Island, N. Y.—Drs. Francis Gordon Griffin, Windsor; Robert Harris, Charlottesville.

U.S. Navy Hospital, San Diego, Calif.—Dr. Robert Breece Pennington, Nathan's Creek, N. C.

U.S. Marine Hospital, New Orleans—Dr. Roy Preston Sandidge, Jr., Charlottesville.

William Beaumont Army Hospital, El Paso, Texas—Dr. Lewis Willard Shankel, Charlottesville.

Alumni Association, Medical College of Virginia.

Mr. E. Claiborne Robins, Richmond, an alumnus of the School of Pharmacy, succeeded Dr. Donald S. Daniel of Richmond, as president of the Alumni Association. Dr. H. Hudnall Ware of Richmond was named president-elect, and the following were named vice-presidents: Dr. Brock D. Jones, Norfolk, Dr. W. A. Ratcliffe, Richmond, W. Roy Smith, Petersburg, and Miss Julia Watkins, Richmond. Mr. J. Curtis Nottingham of Richmond was renamed secretary and Dr. Harvey B. Haag, also of Richmond, treasurer.

Dr. Coleman Resigns.

Dr. Claude C. Coleman, a pioneer in neurosurgery in the United States, resigned his position with the Medical College of Virginia, effective July 1. He was professor and head of the department of neurological surgery, where he is completing forty-two years of service with the College. During this time he has been honored by many other organizations.

Dr. Alfred R. Shands, Jr.,

Has been appointed as a member of the Armed Forces Medical Policy Council effective July 1, 1951. Dr. Shands is Medical Director of the Nemours Foundation and Surgeon in Chief of the Alfred I. duPont Institute of Wilmington, Delaware. He has been a civilian medical consultant to the Surgeon Generals of the three services.

A graduate of the University of Virginia's Medical School, Dr. Shands is a former Professor of Surgery at Duke University. He is a visiting Professor in Orthopedic Surgery at the University of Pennsylvania. During World War II, Dr. Shands served as a colonel in the U. S. Army Medical Corps, and continues to hold that rank in the Organized Reserve Corps.

Dr. Maxwell E. Lapham,

Dean of the Tulane Medical School, New Orleans, has gone to South America to survey medical facilities there. The survey is being sponsored by the United States State Department and he will represent the Association of American Medical Colleges and Universities. Dr. Lapham was at one time field clinician in obstetrics of the Department of Clinical and Medical Education of the Medical Society of Virginia.

A.M.A. Cancels Session in Houston.

The Winter Clinical session of the American Medical Association will not be held in Houston, as originally scheduled, but has been switched to Los Angeles. This is due to the fact that the huge San Houston Coliseum where the exhibits were to be held is tied up by a 10-year contract and cannot be secured between October 1 and April 1.

The Gill Memorial Eye, Ear and Throat Hospital,

Roanoke, has just completed its twenty-fourth Annual Spring Congress in Ophthalmology and Otolarygology. The total registration was 350. Registrants came from 38 states and all parts of Canada. Twenty-three guest lecturers, comprised the faculty. The twenty-fifth Congress will be held in Roanoke, April 1-8, 1952.

News from Department of Medicine, University of Virginia.

Dr. S. W. Britton, Professor of Physiology at the University, has been appointed Visiting Professor of Endocrinology at the University of Nigeria, British West Africa, and will leave for Africa in February, 1952. Announcement of the award of the visiting professorship was made by the Department of State under terms of the Fulbright Act. During his stay in Africa, Dr. Britton will continue his investigations on endocrine involvement in maintenance of the upright position, using primates available in the region. Dr. Britton will be on leave of absence from the University during the second semester and will retire at the end of the year, after 24 years of service.

Dr. George Cooper, Jr., Associate professor of Roentgenology, was awarded the American Cancer Society's 1951 Medal, May 18, in recognition of his contributions to the control of cancer. Dr. Cooper is medical and scientific director and a member of the Board of Trustees of the Virginia Division, American Cancer Society, and chairman of the cancer committee of the Medical Society of Virginia. Last year's American Cancer Award for Virginia was presented to Dr. Edwin P. Lehman, Professor of Surgery and Gynecology, University of Virginia.

The new Virginia Hearing Foundation at the University is being organized under the direction of Dr. Fletcher D. Woodward, Professor of Otolaryngology, and Dr. James M. Mullendore, director of the Speech and Hearing Center at the University.

The Virginia Hearing Foundation will offer a training center for specialists in the diseases of the ear and will provide a complete diagnostic clinic. Future plans include the setting-up a full-time traveling clinic, which will travel throughout Virginia conducting hearing tests.

Dr. Fletcher D. Woodward, Professor of Otolaryngology at the University, retires as Chairman of the School of Otolarygology July 1, after 26 years of service, but will remain active on the teaching and clinical programs. Dr. G. Slaughter Fitz-Hugh, clinical assistant professor of otolaryngology, will succeed Dr. Woodward as chairman of the Department.

Dr. Halsted S. Hedges, Emeritus Professor of Ophthalmology at the University of Virginia, was honored for his 52 years of service by the Virginia Society of Ophthalmology and Otolaryngology at its 32nd annual meeting May 12 in Roanoke. Dr. Hedges, the first member of the Society to be so honored, has been a member of the medical faculty of the University of Virginia since 1899.

Dr. Douglas E. Bragdon, assistant professor of Anatomy at the University, has received a grant from the Committee on Research in Problems of Sex, of the National Research Council, for studies on the corpora lutea of ovoviviparous snakes.

The Tidewater Ophthalmological and Otolaryngological Society

Held its second meeting in Norfolk, May 23rd. The guest speakers were: Dr. P. N. Pastore, Professor of Otolaryngology at the Medical College of Virginia, who spoke on the effects of quinine poisoning of the inner ear of rats and rabbits, based on experiments. Dr. W. W. Zimmerman of the staff

of the Medical College of Virginia read a paper entitled "Causes of Blindness".

Dr. C. C. Cooley is President and Dr. John G. Sellers Secretary-Treasurer of this Society. Both are of Norfolk.

News from State Health Department.

Dr. J. B. Porterfield has resigned his post as an assistant director of local health services with the State Health Department, to become a senior medical officer with the Veterans' Administration in Johnson City, Tennessee.

Dr. C. P. Pope has returned from educational leave and will again assume his duties as Health Officer of the Pulaski-Wythe Health District, with headquarters in Pulaski.

Dr. W. R. Payne

Of Newport News announces the association of Dr. W. James Baggs, Jr. in the practice of gynecology. Dr. Baggs is a graduate of the Medical College of Virginia. He served his internship and residency in obstetrics and gynecology on the Tulane Service of Charity Hospital, New Orleans. He was a Lt. j.g. in the U. S. Navy Medical Corps during World War II, participating in several invasions with the Marine Corps in the Pacific.

The American College of Surgeons

Will hold its 37th annual Clinical Congress in San Francisco, November 5 to 9, 1951, with headquarters at the Fairmount Hotel and Civic Auditorium. The thirtieth annual Hospital Standardization Conference is scheduled to be held concurrently, with meetings in the Civic Auditorium, as a part of the Congress. The combined programs will include scientific and technical exhibits, color television, cine clinics, medical motion pictures, scientific sessions, panel discussions, conferences, symposia, official meetings, and forums. Several thousand surgeons and hospital representatives are expected to attend.

Dr. Arthur W. Allen of Boston is Chairman of the Board of Regents of the College; Dr. Henry W. Cave of New York is President, Dr. Alton Ochsner of New Orleans is President-elect and will be installed as President on November 5; Dr. Paul R. Hawley of Chicago is the Director. Dr. Emile Holman is Chairman of the San Francisco Committee on Arrangements. The hospital conference program is in charge of Dr. Paul S. Ferguson, Acting Assistant Director in charge of Hospital Standardization.

Dr. Ralph S. Faris,

Richmond, succeeded to the presidency of the American Institute of Homeopathy at its annual meeting at Atlantic City, June 17-21.

Married.

Dr. Robert Finley Gayle, III, and Miss Jane Lowry Dale, both of Richmond, June 16.

Dr. John L. Jennings,

Recently of Danville, has moved to Palmetto, Florida, where he will be engaged in the practice of medicine and surgery.

The Virginia Society for Pathology and Laboratory Medicine

Held its Spring meeting in Richmond on May 19, under the presidency of Dr. W. D. Nolan of Arlington.

1. *Scientific Program:* Dr. James E. Ash, Col. U.S.A., Ret., conducted a slide seminar on lesions of the ear, nose and throat.

2. The business meeting included the following committee reports:

a. *Committee on Laboratory Fees:* Dr. Palmer, chairman, had prepared a survey of laboratory fee schedules in the state and copies of his report were distributed to the members. A similar survey on salary rates for laboratory personnel will be made by the same committee, the survey to include the salary schedules of state and federal institutions.

b. *Committee on Resident Training:* Dr. Strauss, chairman, reported that the committee held a meeting in Charlottesville and submitted the unanimous report of the committee:

"The committee feels (1) that a minimum of three years supervised training is necessary in either pathological anatomy or clinical pathology as separate qualifications.

(2) that as combined qualifications three years in pathological anatomy and two years in clinical pathology may be adequate.

(3) two years training in pathological anatomy is insufficient and inadequate."

There was a lively discussion. The general feeling was that lengthening the training period might reduce even further the number of doctors interested

in pathology and that one year in clinical pathology was certainly insufficient. On the other hand, it was generally agreed that two years in pathologic anatomy were not long enough either. Dr. Williams made a motion which was unanimously carried that the report of the committee be accepted and copies of the report be sent to the College of American Pathologists and to the American Board of Pathology.

c. *Committee on Evaluation of Laboratory Procedures:* Dr. Dolan, chairman, reported on his negotiations with Dr. Sunderman, who expressed his willingness to supply standards to all hospitals who were willing to participate and to distribute anonymous lists with the results obtained. It was felt that this matter should be handled through an outside agency. Dr. Williams made a motion that the committee complete the negotiations with Dr. Sunderman and put the evaluation in operation pending the expected national evaluation program of the American College of Pathologists. The motion was carried by unanimous vote.

d. *Committee on Tumor Registry:* Dr. Mann, chairman, reported that participation had been very poor. He offered to have blocks cut at his institute for distribution of slides among the Tumor Board and others interested in the material. It was felt that not only diagnostic problems but also cases of general interest should be sent to the committee.

e. *Committee on Local Arrangements For Regional Meeting:* Dr. Scherer, chairman, asked for scientific papers for members of the Society for the morning session. Titles should be submitted as soon as possible. Selection will be made by the program committee consisting of Drs. Mann, Scherer, Rawson and Bobbitt.

Applications for Membership: Application for membership by Dr. K. F. Menk of Falls Church, Virginia, was presented and accepted unanimously.

M. L. DREYFUSS, M.D.
Secretary-Treasurer.

The United States Chapter of the International College of Surgeons

Will hold its 16th annual assembly in Chicago on September 10th through the 13th, 1951, with headquarters at the Palmer House. An excellent program has been arranged. Prominent surgeons from the United States and other countries will participate. Scientific sessions will be held by all specialty sections of the United States Chapter.

The annual banquet will take place on Wednesday evening, September 12. Mr. Lawrence Abel, F.R.C.S. (Eng.) of London, will be the principal speaker. The Assembly will conclude with the convocation, to be held in the Civic Opera House on the evening of September 13. Senator Estes Kefauver will deliver an address on "The America of Tomorrow."

Hotel reservations may be arranged by writing to the Housing Division, Chicago Convention Bureau, 33 North LaSalle Street, Chicago 2, Illinois.

Dr. Hal S. Johnson

Announces his removal to 22 Church Street, Martinsville, where he is engaged in private practice limited to the eye, ear, nose and throat.

Dr. E. G. Gill

Roanoke, read a paper by invitation on "The Surgical Treatment of Glaucoma" at the Second Clinical Conference of the Alumni of the New York Eye and Ear Infirmary, New York City, May 10th and 11th. Dr. Gill was also elected president-elect of the Alumni Association and a member of the Executive Council.

Office Space For Rent.

Doctor's or Dentist's office available immediately, corner of Harrison and Franklin Streets, Richmond, Call 5-4387. (*Adv.*)

OBITUARIES

Dr. Lockburn B. Scott,

Former secretary and treasurer of the Norfolk County Medical Society for twenty-seven years, died at the home of a daughter in Norfolk, May 17th, at the age of 89. He was a native of Ontario, Canada, and received his medical degree at the Manitoba Medical College in 1907. He retired from active practice about fifteen years ago. He is survived by three daughters.

Dr. Eugene Knight Bowles,

Retired physician of Jordan Mines, died May 18, at the age of 68 years. He was a graduate of the Baltimore Medical College in 1907 and had practiced in Alleghany County for thirty-five years. He was a former member of the county's welfare and electoral boards and health department. His wife and several children survive him.

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GUEST EDITORIAL

Poliomyelitis

THIS time last year the State of Virginia was suffering from an epidemic of poliomyelitis which was requiring many hospital beds for treatment. In spite of the facilities present, there were many deaths.

Upon reviewing the outcome of last year's epidemic much was learned. Although very little more is known as to the spread of the disease some knowledge has been obtained as to treatment.

Early diagnosis, so that treatment may be started as soon as necessary, should save some lives.

The early symptoms are not pathognomonic for poliomyelitis and could be due to many other common illnesses, appearing during an epidemic of poliomyelitis. Such symptoms as fever, headache, and those related to the upper respiratory tract or gastrointestinal tract or to both may be common to many conditions. When meningeal irritation, spasm and weakness appear the diagnosis becomes simpler for poliomyelitis.

From observations of these cases suffering with the severest paralysis it has been noted that many of these patients refused to give in to their sickness. Instead of taking to bed or rest they exposed themselves to activity and stress without slowing down.

There has been the individual with fever, headache, and malaise who goes swimming and another who practices football. The mother who is caring for her child with poliomyelitis will often develop the disease to a greater extent.

From these cases and similar ones it appears that fatigue during the acute stage can be deleterious and that rest and the slowing down of patients' activities during the acute stage or immediately afterward is very important.

When a patient has developed paralysis and it appears to be progressing or when a patient has shown any signs of clouding of sensorium or irregular and strained breathing he should be sent to a hospital immediately for treatment.

Every physician should be aware of the possibility of the presence of poliomyelitis and be ready to make an early diagnosis so that he may advise his patients to go to bed if the disease is suspected. He should also encourage his patients to avoid excessive strain or fatigue during an epidemic. If these simple principles can be carried out the seriousness of poliomyelitis will be somewhat diminished.

LEE E. SUTTON, JR., *Chairman*
Committee on Poliomyelitis,
Medical Society of Virginia.

LOWER NEPHRON NEPHROSIS*

M. MORRIS PINCKNEY, M.D., F.A.C.P.,
Richmond, Virginia.

A 29 year old woman in the eighth month of a supposedly normal pregnancy had severe labor pains and five hours later upon admission to the hospital was found to have a premature separation of the placenta, the fetus being dead. Delivery was effected and blood transfusion was administered.

Only a small amount of urine was voided in the first 24 hours of hospitalization, far too low in proportion to the intake of fluids, and urinalysis revealed albuminuria, blood and pus. Twenty-four hours after admission chemical studies of the blood revealed a high degree of nitrogen retention, an elevated icterus index and uric acid.

During the first five days of hospitalization measurement of her urine excretion showed oliguria throughout, but on the sixth day diuresis began and the patient made what is traditionally described as an uneventful recovery.

A slide exhibiting the chemical alterations in her blood is prepared from specimens obtained the day before the onset of diuresis.

Here we have an example, fortunately of happy outcome, of what Lucke[1] terms lower nephron nephrosis, a syndrome of vast importance and interest to clinicians in all fields, whether surgeons, physicians, obstetricians, or orthopedists, and one which pathologists especially in this country and England have elucidated most brilliantly. Lower nephron nephrosis may be observed clinically following a variety of injuries to the body, Lucke listing severe trauma to muscle (known as the crush syndrome), non-traumatic muscular ischemia, burns, transfusions with incompatible blood, heat stroke, black water fever, toxemias of pregnancy, uteroplacental damage, alkalosis, drug intoxications, and poisonings with certain vegetable and chemical agents. Whereas shock and renal failure are the clinical manifestations of these assaults upon the body, the pathologist discovers the anatomical common denominator in the lower segments of the nephrons.

The nephron, by definition, is an anatomical and functional unit of the kidney, being composed of the glomerulus, the proximal convoluted tubule, the descending loop of Henle, the ascending loop of Henle, and the distal convoluted tubule. The collecting tubule is not included in the unit.

Briefly, the glomerulus is a passive filtration plant, the filtrate draining into the proximal convoluted tubule whose large brush bordered cells initiate a process of active and selective reabsorption. Here 80 per cent of the fluid of the filtrate is reabsorbed and returned to the body's circulation, together with sugar and chlorides, according to the body's needs, and probably other chemical modifications not yet understood are performed. The narrowed descending limb of Henle's loop acts as a pressure trap prolonging contact between intratubular fluid and the resorbing surface of the proximal tubule.

The ascending loop of Henle and the distal convoluted tubule, the structures disordered in the lower nephron syndrome, perform the final modification of filtrate to urine, in particular by the selective resorption of chemicals to maintain the acid-base equilibrium of the blood stream. It is interesting to note[2] that each day more than a pound of the sodium salt is absorbed by the renal tubules to conserve base for the body.

The circulation of blood through the kidney is now being extensively restudied by physiologists and research clinicians. Less than three years ago Trueta[3] and his associates in England showed conclusively that there exist in the kidney of the rabbit two pathways of arterial circulation, rather than only one as had been previously thought. The main arterial channel, carrying about 85 per cent of the renal blood flow in the normal state, lies in the cortex, but a second course lies in the medulla and juxta-medullary areas of the cortex. This juxta-medullary shunt, therefore, when the main cortical channel is closed off, will carry the flow from the renal artery through the medulla to the renal veins, the cortex of the kidney being ischemic. In such a situation, only the juxta-medullary glomeruli, which are few in number, will receive blood.

In addition, another little understood part of the kidney is the so-called "juxtaglomerular appara-

*Read before the annual meeting of the Medical Society of Virginia at Roanoke, October 8-11, 1950.

tus", a collection of cells lying in the angle between the afferent and efferent arterioles of the glomerulus. These cells of possibly a neural or secretory character may regulate the glomerular blood flow by the liberation of renin.

A second shunt, in addition to Trueta's juxta-medullary channel, is the shunt described by Ludwig between the afferent arterioles of the glomeruli and the tubules. Thus there are two ways within the kidneys by which the glomeruli can be deprived of arterial blood—first, by a shunting of blood through the medulla by Trueta's juxta-medullary pathway leaving an ischemic cortex, and, second, by Ludwig's shunt by-passing the glomeruli between arterioli and tubules.

The mechanism of renal failure in the lower nephron syndrome has not been explained to the satisfaction of all investigators, but each writer agrees that "shock" is a constant finding in the early phases of this syndrome. Cournand[4] regards the production of shock as part of the homeostatic changes initiated by the body to protect its most vital parts from inadequate circulation. He feels that there is an active vasoconstriction of the kidney circulation, and suggests that the kidneys, like the skin, are temporarily cut off from the circulation, representing a manifestation of the body's determination to protect itself from death.

That this diminished renal circulation results from a shunting of blood through Trueta's juxta-medullary channels producing an ischemia of the renal cortex is postulated by Trueta and agreed to by many writers, according to Best and Taylor.[5] However, strong opposition to this theory is voiced by Lucke, Mallory,[6] and Phillips and Hamilton,[7] and Lauson[8] has demonstrated in man a marked diminution in the entire flow of blood through the kidney rather than any shunting mechanism. Furthermore, Maxwell, Breed and Smith,[9] only a month ago, published evidence to show that the "juxta-medullary circulation in man has no unique functional significance as far as can be ascertained at the present time".

If, therefore, Trueta's hypothesis of the cause of renal failure is rejected, what mechanism initiated by the state of shock produces the oliguria? Evidence has been presented by Phillips and Hamilton, and seemingly recently confirmed by Maxwell who states that "the more probable explanation appears to be that protracted anoxia or chemical injury destroys the integrity of the renal tubules leading, to a greater or lesser extent, to reabsorption of all constituents in the tubular urine".

Bywaters,[10] in his excellent article "Ischemic Muscle Necrosis", showed that in the crush syndrome the injured muscle quickly loses a large percentage of its pigment myoglobin, of its phosphorus, potassium, creatinine, and acid producing substances. These chemicals are dissipated on the first day after the injury and are rapidly excreted by the kidneys.

The chemical degeneration of myoglobin, the heme compound normally found in muscle, or of hemoglobin of the blood to simpler heme fractions may lead to precipitation of these compounds in the renal tubules, thus producing plugs of blood products to dam the tubules. Bywaters and Stead[11] have shown that blood pigment will be precipitated out of solution within the tubules in a tubular fluid of sufficient acidity, and this phenomenon in the presence of abnormal water reabsorption will lead to the formation of pigment plugs in the tubules. Pathologists, however, doubt that such tubular plugs cause oliguria, for microscopic examination of renal sections show only a few tubules so blocked.

Whether the flooding of the blood stream with potassium initiates either vascular constriction or in any way affects the formation of urine is undetermined, but future researches may clarify this point. It is known that a low blood sodium level will diminish renal blood flow and depress glomerular filtration, but in the lower nephron syndrome the frequent finding of low sodium values is believed to be the result and not the cause of the renal dysfunction. All we can say at present is that the blood electrolytes are probably not the initiating factors in the production of the kidney failure.

Clinically one sees a rapid diminution in the volume of urine, a few hundred c.c. or less being secreted in the second 24 hours after trauma. The first urine passed may be normal, having been formed before the injury, but after injury it becomes highly acid, low in specific gravity, and contains albumen, red cells, and pigment granules. Mallory states that even though the color may be normal that the benzidine test is usually positive, and that the color is rarely port wine except in transfusion reaction and crush cases. Total anuria may occur. The composition of the urine tends to resemble glomerular filtrate in that the concentration of urea is low and the chloride

content is high. Potassium and creatine, derived from injured muscle, appear in the urine, being present in high concentrations in the blood.

With progressive renal decompensation comes nitrogen retention usually associated with low blood chlorides, lowered Co_2 combining power, and sometimes hypocalcemia. Lowering of the chlorides may be augmented by pre-renal deviation of these electrolytes through vomiting and perspiration.

The clinical picture of lower nephron syndrome, having been so frequently described,[12] will be sketched hurriedly. Following the injury to the body, injury due to crushing force, uteroplacental damage, transfusion reactions or what not, the patient goes into shock, mild or severe, lasting a few hours and this is the period in which renal damage is sustained.

Symptomatically the patient may show evidences of anxiety, and objectively the blood pressure and pulse may be normal, but if compensatory vasoconstriction is not maintained, the pressure falls, the systolic pressure falling more than the diastolic. Cournand finds that an accelerated pulse rate is inconstant and not a reliable criterion.

With the development of renal failure, the symptoms usual in this condition are found: apathy with periods of anxiety, confusion, edema, anorexia, vomiting, twitchings, convulsions, coma. Electrocardiographic evidences of potassium intoxication may be found:[13] high, narrow T waves, broadened QRS complexes, loss of P waves, and cardiac arrest.

The initial pathologic change[6] is seen 18 to 24 hours after injury and this is a lipid vacuolization of the ascending limb. Then after 24 to 72 hours one sees precipitation of pigment followed by moderate dilation of the proximal and distal convoluted tubules.

By the fourth or fifth day necrosis and regeneration of epithelium in the ascending limbs and distal tubules become evident. From the fifth day on one sees rupture of the tubules with herniation of their content into the stroma. There are no pathognomonic gross evidences of lower nephron nephrosis. The kidneys are usually swollen, the cortex is widened and pale, and the medulla is dusky and congested.

The prognosis is very grave, a mortality rate of 90 per cent having been found if renal failure and oliguria develop. Death usually comes quickly, but if the patient survives the first week, life expectancy is increased. Strauss[14] believes that the cause of death is either pulmonary edema or potassium intoxication.

If the patient survives the first week or ten days, recovery may be anticipated, and is usually sudden and dramatic. Copious diuresis occurs, azotemia declines and renal function rapidly returns to normal. As far as is known there is no residual renal damage.

The treatment of the lower nephron syndrome, though certainly far from satisfactory as evidenced by a mortality rate of 50 per cent to 75 per cent, has been delineated to such a degree that a synopsis of suggested methods will prove helpful.

In cases of crush injury Bywaters advises that fluids and alkali in the form of soda bicarbonate be given freely by mouth even before the patient is moved or before the pressure on the limb is relieved. He further warns against warming of injured limbs, as vasodilatation produced by heat may counteract the body's protective vasoconstriction and thus precipitate shock.

The prevention of shock is obviously the primary aim in treatment, and to this end whole blood, plasma or saline should be administered plentifully and promptly. The phase of shock usually lasts only a few hours and is followed by the onset of renal failure as evidenced by oliguria. The phase of oliguria requires close attention to fluid loss and electrolyte alterations, and most writers suggest a fluid intake of 750 c.c. to 2,000 c.c. In the presence of edema, fluid is further restricted. Strauss advises 750 c.c. of 15 per cent glucose in distilled water daily by vein, nothing being given by mouth. If vomiting occurs, he recommends that the volume of vomitus be measured and an equal amount of normal saline added to the intravenous infusion. In the presence of acidosis he suggests the use of 1 liter of 1/6 M. sodium lactate solution to replace the daily injection of distilled water.

A low blood sodium level may be raised by the intravenous administration of 5 per cent sodium chloride. If excessive potassium appears in the blood, intrajejunal perfusion through a Miller-Abbott tube with hypertonic glucose may be helpful. Hypocalcemia, of course, calls for the addition of calcium to the daily infusion.

Some writers urge that sodium bicarbonate be given freely to produce an alkaline glomerular filtrate, but others point out that such therapy is ineffectual, in that the alkali obviously does not reach

the glomeruli in the presence of cortical ischemia. Also some[15] urge that fluids be pressed to a minimum limit of 3 to 4 liters a day, but, again, in a state of oliguria or anuria, such therapy is futile, and only edema can result.

In the period of recovery, when diuresis begins, fluids should be given in amounts equal to the urine volume plus at least 1,000 c.c. with sodium chloride to replace the salt lost in the previous day's urine. Transfusions again may be now used to restore the blood hemoglobin and protein levels.

The "artificial kidney", transperitoneal lavage, and jejunal lavage have aroused much enthusiasm in recent years, and subsequent refinements and simplifications may make such techniques of value for general use. It may be well to temper our enthusiasm for such methods, however, by rereading Strauss' paper in which he cites the cases of those who have survived four or more weeks without renal function and then have experienced spontaneous diureses and complete recovery. Two other cases have also recently been reported by Fowler and Hunt.[16]

The recent sensational discoveries resulting from the clinical use of the new adrenocortical tropic hormone may point the way to a definitive treatment of the lower nephron syndrome. If the adrenal hormones are able to defend the organism from the assaults of its environment, perhaps these hormones may be able to prevent or diminish the shock and renal failure which characterizes this syndrome. For the present, however, our aim, following the treatment of the initial shock phase, should be to try to keep the patient alive for the first week, for then recovery usually follows.

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Discussion

Dr. Frank Pole, Richmond: I should like to thank Dr. Pinckney for presenting this paper to us. In the past several years so much that has been confusing and contradictory has been said and written about lower nephron nephrosis that Dr. Pinckney has done us a real favor in clarifying and summarizing the best of modern thought on this subject.

As a urologist, I should like to emphasize a few points brought out by Dr. Pinckney's presentation.

First, the treatment of lower nephron nephrosis has been shown to be nonsurgical in the majority of instances. We have had the experience of seeing patients who have apparently been relieved of their anuria by renal decapsulation or some other surgical procedure; but, in restrospect, we wonder if these patients did not recover in spite of rather than because of this surgery. Operation has usually been undertaken as a last resort; and, as in Dr. Pinckney's case, this is about the time that diuresis will appear anyway if the patient is going to recover at all.

A second point that should be emphasized is that fluids should be given to these patients in very limited amounts, although it has been the tendency of most of us to attempt to stimulate diuresis by the administration of venoclyses in large amounts.

Third, and last, it should be pointed out that the laboratory plays an absolutely essential role in the management of lower nephron nephrosis. The maintaining of proper electrolyte and acid-base balance will be the deciding factor in many cases; and very frequent laboratory studies, especially blood chlorides and CO_2 combining power, must be carried out.

Again, I should like to thank Dr. Pinckney for giving us the opportunity to hear an excellent presentation of a very interesting and important subject.

Dr. Paul D. Camp, Richmond: I enjoyed Dr. Pinckney's paper very much, and I primarily want to ask his opinion on something. We see, particularly after myocardial infarction, quite frequently the syndrome in which there is a marked drop in blood pressure, perhaps down to even 90 or 80, or sometimes below that; or we see, in patients who have had beforehand a quite high blood pressure, a relative drop, say of even 100 milligrams of mercury. In these patients there is oliguria and sometimes even anuria. They go on to uremia, and the mortality rate is, of course, alarmingly high there. I should like to know, if in his opinion, the cause of oliguria and anuria and renal failure is due to a shunting mechanism of any type or due to

lower nephron nephrosis or is due to simple lack of filtration pressure in the glomeruli which is brought about by the general fall in the blood pressure. I am sure I do not know the exact cause, and I do not know whether it is known or not. We are, then, between the devil and the deep blue sea, as the saying goes, as to what to do about these patients because we certainly do not like to give them too much fluid, and yet there is a feeling, on the part of some at least, that perhaps plasma followed by saline will bring the blood pressure up in some of these cases, and if it could be proven that it is due definitely to a shunting mechanism, then I think our mode of treatment would be different.

I should just like to ask Dr. Pinckney to comment on that.

DR. PINCKNEY, closing the discussion: I am naturally, in my ignorance, unable to answer Dr. Camp's question. I wish I knew. I should suspect, though, and think that the type of shock that would occur following coronary-artery thrombosis is of the central type, producing failure throughout the entire kidney, and that the kidney participates in the collapse, rather than there being any local shunting mechanism. Dr. Homer Smith a month ago said that he believes Trueta's renal shunt has no significance in the human being. Also, we must remember that persons suffering coronary accidents do not have normal kidneys in the first place. I should say there is general circulatory collapse and probably no localized renal shunting mechanism.

Neurologist Says Epileptic is Pilloried Unjustly.

The epileptic is unfairly pilloried in public opinion and law, according to Dr. William G. Lennox, a Boston neurologist, writing in the June 9 J.A.M.A.

Dr. Lennox, who is assistant professor of neurology at the Harvard Medical School and with the Children's Medical Center in Boston, said advice regarding marriage and children in such cases must be individualized.

He stated "Assets that are transmissible, such as sound vital organs, good intellect, personality and social responsibility, may outweigh the liability of a tendency to seizures."

"On the basis of family histories, the hereditary factor in epilepsy appears to be approximately the same as that in diabetes, one-half that in obesity and one-eighth that in migraine, but no state has as yet forbidden migrainous persons to marry. Unjustified discrimination in this case is born of fear. The success of present day therapy of seizures should reduce both fear and discrimination."

He reported on a study of the history of epileptic seizures, if any, of 20,000 near relatives of 4,231 epileptic patients. The incidence in these was 3.2 per cent.

Dr. Lennox concluded that the child of the average epileptic parent has a 30 to 1 chance of remaining free of seizures, although in individual instances the chances might be 10 to 1 or 100 to 1.

"Conditions that minimize the likelihood of an epileptic child are a family history devoid of epilepsy or migraine for the spouse, as well as for the patient, and minimal abnormality of their electroencephalograms [electrical recording of brain waves]; some acquired condition that is at least partially responsible for seizures; late onset of the illness and a normal mental endowment."

He stressed that in viewing the prospective parents, when one is epileptic, the question to be answered is: "Are the transmissible traits of mind, heart and body of such quality that reproduction is justifiable or perhaps advisable?" On the answer depends whether patients should be discouraged or encouraged, he said.

OBSERVATIONS ON THE ANTIHISTAMINE DRUGS*

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Antihistamine compounds are useful when used properly. One manufacturer sold over $6,000,000.00 worth in a recent year, when there were about a dozen competing compounds. A billion antihistamine pills is probably a conservative estimate of the 1949 sales. It is unlikely that a large percentage of these were used properly.

The primary purpose of this report is to outline the uses, limitations, side effects and complications of these compounds. In addition, there are comments on their history, mode of action, chemical variants, pharmacological properties, and on why they are not the hoped-for panacea for the allergic diseases.

Historical: In 1911 Dale and Laidlaw noted the similarities between the effects of histamine and anaphylaxis in the guinea pig. This started the search for drugs to neutralize or prevent the effects of histamine, in the hope that allergy symptoms could thus be prevented. The first effective ones were the sympathomimetics, epinephrin and ephedrine. Many effective variants of these have been developed. They tend to correct the damage done by histamine and the atopic type of reaction, by relaxing smooth muscle and by hastening the absorption of exudate. Arginine, cysteine, and histidine have some antihistamine effects but are too toxic for clinical use. The Xanthines relax the bronchospasm of asthma. Aminophyllin, probably by virtue of its ethylenediamine content, has antihistamine effects too.

Histaminase and histamine-azo-protein were, predictably, not effective clinically. The gullibility of the medical profession and of the medicine-taking public are exemplified by the meteoric histories of these two drugs.

The first real progress in the antihistamine field began with the Fourneau-Bovet phenolic ether compounds in 1933, followed by the ethylene-diamines of Staub in 1939. In 1942 Antergan, the first clinical compound, was described by Halpern. In 1945 Benadryl, then Pyribenzamine were introduced in this country by Loew and by Mayer. Since then many antihistamine compounds have been made available. Certain advantages are claimed for each. A partial list is in Table I.

Table I
Antihistamine Drugs
A Partial List

Antistine	Histadyl	Pyribenzamine
Benadryl	Hydryllin	Pyrrolazote
Chlorothen	Neoantergan	Tagathen
Chlor-Trimeton	Neohetramine	Thephorin
Decapryn	Perazil	Thenylene
Diatrin	Phenergan	Trimeton
Di-Paralene		

Uses—Table II: Antihistamine compounds are particularly effective in relatively mild atopic reactions in the nose and skin. For example, they usually relieve or prevent mild perennial and seasonal hay fever, acute or chronic urticaria and angio-neurotic edema, and reactions to allergen injections. They may relieve, but not predictably: mild atopic dermatitis, contact dermatitis, serum reactions, gastro-intestinal allergy, atopic reactions to foods or drugs such as headache from chocolate or urticaria from aspirin. They are only occasionally helpful in asthma. They help asthma more frequently in children than in adults. They rarely relieve severe allergic symptoms.

Table II
Antihistamine Drugs
Uses

Angio. Edema	Hay Fever
Atopic Dermatitis	Serum Reactions
Allergen Reactions	Urticaria

Food and Drug Atopic Reactions
Asthma, Occasionally
Contact Dermatitis
(Local Anesthetic and Sedative)

The short duration of the wave of interest in the treatment of the common cold was predictable. They may relieve some of the symptoms but they have no curative effects.

The administration of antihistamine drugs is quite simple. They are effective by mouth, three to six times daily, or as needed. Doses range from four to

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one hundred mg. in tablet, capsule, or palatable liquid. Parenteral administration has been recommended. The reason is not clear. Local applications as wet dressings or salves may relieve itching in various forms of eczema, in conjunctivitis and in rhinitis. There is a strong tendency for these drugs to sensitize when used locally on the skin[7] or in the eye.[8] This is a partial contraindication to their topical use. The selection of an antihistamine to use will be discussed later. Aerosols have been recommended for asthma and hay fever. This is rarely the treatment of choice. Their tendency to dry the mucosae may be considered a contraindication in asthma.

TABLE III
ANTIHISTAMINE DRUGS
SIDE REACTIONS

Drowsiness	Nervous	Nausea
Dizziness	Tinnitus	Diarrhea
Dry Mouth	Weakness	Abdominal Pain
Headache	Fatigue	Tachycardia

Side reactions are common (Table III). Because of them antihistamines should be used with caution. The first dose should be taken when the patient can go to bed if untoward symptoms occur. If the first dose or two have no undesirable side effects, it is unlikely that subsequent doses will. If this precaution is taken, a minimum of automobile accidents, false arrests for drunkenness, unwise business deals, etc., can be blamed on antihistamines. This precaution will not prevent the occasional complications which, however, seem no more frequent than from aspirin, antibiotics, and other useful drugs.

Complications (Table IV) are infrequent, fortunately. More complications can be expected, however, with continued wholesale use. The incidence of sensitization phenomena may become appreciable

TABLE IV
ANTIHISTAMINE DRUGS
COMPLICATIONS

Acute Psychoses	Convulsions	Sensitization
Agranulocytosis	Hemolytic Anemia	Periarteritis

Respiratory and Circulatory Depression

in seasonal hay fever and asthma or other recurrent allergic phenomena. Sensitization occurs typically when drugs are used periodically. The other complications are due to overdosage, or to individual idiosyncrasies which cannot be anticipated.

The mode of action of these drugs is interesting. Their antiallergic effects are due largely to their ability to block a histamine-cell combination or to make it an inert one. How this is accomplished is not known. Their effects are not limited to the prevention of histamine reactions. The other effects of the so-called antihistamine compounds are important but are less well-known and are not widely utilized. For example: They may be good sedatives. Most of them are potent local anesthetics. They have definite anti-cholinergic effects. They may potentiate epinephrin by neutralizing histamine. Still less well appreciated are their quinidine-like, anti-hyaluronidase and spasmolytic effects.

These effects are summarized in Table V.

TABLE V
ANTIHISTAMINE DRUGS
MODE OF ACTION

Block Histamine - Cell Combination

Sedation	Local Anesthesia
Anticholinergic	Spasmolytic
Adrenalin-Sparing	Anti-Hyaluronidase

Quinidine-Like

The limitations of the antihistamine drugs (Table VI) should be known by every physician who prescribes them. They *rarely relieve severe* hay fever,

TABLE VI
ANTIHISTAMINE DRUGS
LIMITATIONS

Asthma	Arthus Allergy
Atopy—Severe	Contact Allergy
Complications	Tuberculin Allergy
Side Effects	Periarteritis, etc.

urticaria, angioneurotic edema, reactions to serum and allergen injections, or even mild atopic dermatitis and asthma. This is particularly disappointing since these are the cardinal indications for their use and since histamine is supposed to play such an important role in these conditions. The striking failure in asthma has not been explained. When it is explained it may yield useful information about the pathogenesis of asthma.

Troublesome side-effects and the complications are obvious limitations. Equally obvious but less widely appreciated are their complete lack of effectiveness in the tuberculin, periarteritis, and Arthus' types of allergy. In these manifestations of allergy the role of histamine has not been demonstrated, nor strongly postulated. Antihistamines are therefore not in-

dicated. The relief of itching obtained by oral and topical antihistamines in contact dermatitis may be explained by their local anesthetic and sedative actions and not by their antihistamine effects. There is evidence, incomplete however, that histamine causes some of the skin injury in contact dermatitis.

Pharmacology (Figure I). Histamine is blocked from receptor positions in the tissue cells

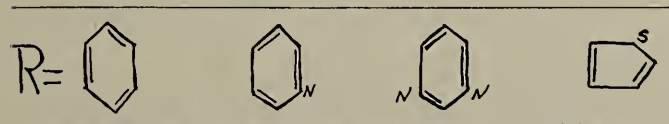
Figure I
Antihistamine Compounds
Some Basic Pharmacological Principles
(Modified from Seyler[6])

Antihistamine Activity	Drowsiness	Toxicity	Ring Compound Linkage and Variant		
2+	3+	3+	R - O - CH_2	CH_2	$N^{CH_3}_{CH_3}$ Blocks Histamine Tissue Reaction
3+	2+	2+	R - N - CH_2	CH_2	$N^{CH_3}_{CH_3}$
1+	1+	1+	R - CH_2 -	CH_2 CH_2	$N^{CH_3}_{CH_3}$ Side chain common to many Antihistamines

O—Linkage increases drowsiness and toxicity more than antihistamine activity.
Examples: Benadryl, Decapryn, Hydryllin.

N—Linkage increases antihistamine activity more than drowsiness and toxicity.
Examples: Pyribenzamine, Neo-Antergan, Neohetramine.

CH_2—Linkage decreases antihistamine activity and drowsiness and toxicity.
Examples: Trimeton, Chlortrimeton.



Benzene, Pyridine, Pyrimidine, Thenyl, and various polycyclic ring compounds in arbitrary combinations designed to modify side effects and antihistamine activity.

by $N^{CH_3}_{CH_3}$. Most of these compounds have in their composition, or decomposition, this general formula: R—CH_2 CH_2 $N^{CH_3}_{CH_3}$, where R is any large slightly basic radical representing about 75 per cent of the molecular weight. Benzene, Pyridine, Pyrimidine, Thenyl and polycyclic rings in various combinations are the usual components of R. These rings are attached to the common di-methyl amino-ethyl chain through O, N, or CH_2 radicals to modify side effects, toxicity, and antihistamine activity (Figure I). On this basis, Seyler[6] lists four groups of compounds: (1) Benadryl, Decapryn and Hydryllin, linked to R through the O atom. (2) Pyribenzamine, Neo-antergan and Neohetramine, linked to R through the N atom. (3) Diatrine, Histadyl, Thenylene and Chlorathen, also linked to R through the N atom, are grouped because they have the Thenyl ring. (4) A miscellaneous group, such as Trimeton, Antistine and Thephorin differ from the other groups and from each other. Feinberg[3] uses similar groupings.

There are many other pharmacological properties of the antihistamines, which have limited clinical application. The better known effects, not yet mentioned, are:

1. They neutralize the following effects of histamine: (a) Aerosol bronchoconstriction, (b) Spasm of guinea pig ileum, (c) Whealing of the skin, (d) Depressor action on arterial blood pressure, (e) Oxytocic action, (f) Increase in capillary permeability.
2. They protect against: (a) Active and passive anaphylaxis, (b) Specific contraction of the uterus of sensitized guinea pigs, (c) Experimental anaphylactic uveitis, (d) Experimental allergic nephritis. Large doses are required for most of these effects.
3. They prevent experimental orthostatic albuminuria in rabbits. 4. They may produce hyperglycemia. 5. They may inhibit oxidation of glucose and pyruvates in brain homogenates.
6. They inhibit, partially, the Schwartzmann phenomenon and the lesions of experimental chemical contact dermatitis.

They *do not* prevent: (a) Histamine production of gastric HCl. (b) Experimental meningoencephalitis, (c) Reversed anaphylactic reactions of the guinea pig to anti-guinea-pig-rabbit serum, (d) Arthus and tuberculin reactions.

Selection of an antihistamine drug for the individual patient. Fortunately, many patients tolerate and are relieved by the first one they try. If the first one does not relieve or is not well tolerated, the proper drug for that patient must be determined by trial and error. This process can be shortened by pre-

liminary trials of a key drug from each of Seyler's[6] or Feinberg's[3] groups. The final selection is made from the group indicated by the most effective least objectionable key drug. Remember that sedation is desirable as often at night as it is undesirable during the day. One drug at night and another for day use is common practice. These structural relationships are therefore of practical clinical significance.

Antihistamine compounds are not the long-hoped for panaceas for the allergic diseases. There are differences as well as likenesses between histamine effects and anaphylaxis, the animal reaction most comparable to human atopy. Histamine or its counterpart plays an important role in anaphylaxis, but so do other substances. The role of histamine has been studied widely. The roles of the other substances have not. For example, there is good evidence that hyaluronidase release, proteolytic enzyme activation, heparin release, lysocithin, potassium, cholinergic stimulation, and a slow-reacting substance (SRS) are concerned in anaphylaxis. So far, the antihistamines have exhibited protecting effects against histamine, acetylcholine, and hyaluronidase. It seems reasonable to suggest that solution of the problems of anaphylaxis and atopy is more apt to come from study of these, and of other unidentified substances, than from continued study of histamine alone.

Conclusions: The antihistamine drugs are useful. Their effects are purely symptomatic. They have no curative value. Their chief usefulness is in prevention and relief of some mild atopic symptoms. They do not, as a rule, control severe symptoms. Their sedative and local anesthetic effects can be utilized in selected problems. They seem to be little more effective than the sympathomimetic drugs, ephedrine and epinephrin, which have relieved symptoms of allergy for years. Unpleasant side effects are, perhaps, better tolerated than those caused by ephedrine and epinephrin, although they have not been compared adequately. They can be used in conjunction with the sympathomimetic drugs.

The antihistamine drugs are useful supplements to specific therapy. They should not be substituted for specific therapy except, perhaps, in the occasional case in which they afford complete objective and subjective relief.

Other properties than the antihistaminic ones need more study, especially the sedative, local anesthetic, spasmolytic, anti - cholinergic, epinephrin - sparing, quinidine-like and anti-hyaluronidase effects.

The antihistamine compounds do not, and can not be expected to, serve a significant purpose in the tuberculin and Arthus types of allergic reaction. Nor can they be expected to interrupt the genesis of the slowly developing allergic responses represented by periarteritis, rheumatic fever, glomerulo nephritis, and other diseases of hypersensitivity in which histamine has not been demonstrated to play a role. They have limited usefulness in contact dermatitis.

Physician and patient should be aware of the problems which may arise from the frequent side-effects and the infrequent complications.

The few references below contain a comprehensive bibliography of the whole subject of the antihistamine compounds.

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DISCUSSION

DR. WYNDHAM B. BLANTON, Richmond: Dr. Swineford has given us one of his usual clear and informative talks. I find in it nothing with which to take issue. There are, however, several points I should like to emphasize.

The first is the tremendous exploitation of these preparations. There are now 37 pharmaceutical firms which have taken 19 antihistamines, created 102 trade names, and distributed them in 123 different forms, deriving

from the procedure what has been conservatively calculated as an annual return of 100 million dollars.

Second, when the Food and Drug Administration allowed these drugs to be sold over the counter it did the American people an incalculable disservice. It put a very potent, toxic, sometime lethal drug in the hands of ignorant people.

From a bibliography which now numbers by my last count 587 articles, I gather that the antihistamines have been employed in about fifty different disease entities, in some with astonishingly good effect, such as hay fever, urticaria and other itching dermatoses, motion sickness, serum sickness, drug eruptions, etc. But in many other diseases they have been employed with questionable justification.

The treatment of the common cold with the antihistaminics is an example in point. There have been *now* enough reports of large-scale studies of patients given these drugs in the prevention and early treatment of colds to state *categorically* that what benefit may be derived is slight and probably no greater than that which can be achieved by other well-known drugs that are locally sedative, astringent, or analgesic.

An industry with which I am familiar experimented last year with Chlor-trimeton in combination with phenacetin in a large, fairly-well controlled series of cases. There were 8,000 employees who took, without knowing which, Chlor-trimeton and two placebos. The group that took a tablet of inert material reported in 53 per cent of the cases satisfactory results. The group that took Chlor-trimeton reported satisfactory results in 73 per cent of the cases. Now, I think that the difference between 53 per cent and 73 per cent is negligible in the light of the high incidence of reported improvement when given a fake capsule.

The weaknesses of this sort of experiment are evident. They consist in part in a reliance upon the patient's statement rather than upon objective evidence and in the failure to rule out the large number of cases of vasomotor rhinitis and instances of temporary nasal discomfort so frequently associated with fatigue, exposure to cold, or other irritating factors, which conditions closely simulate the common cold.

One series of experiments seems to me to settle the matter. Feller and his associates made direct virus inoculations from a patient with a cold into the nares of 49 volunteers. Sixty per cent took. Beginning just before the inoculation and continuing every four hours as long as there were symptoms, one-third of these recipients were given a recognized antihistamine, one-third another antihistamine, and one-third placebo tablets. Result: The percentage of colds, their duration, and their severity in each group were the same.

Finally, these drugs kill people. There are, it is true, only eight cases of death so far reported in the literature, most of which have occurred in children who have taken in large quantity cold cures bought over the counter and left around by careless parents. On the other hand, in Chicago a little while ago a man under the narcotizing influence of an antihistamine ran his automobile into another, killing two persons. How many industrial and automobile accidents can be attributed to the antihistamines has never been determined, but no one doubts the risk of their indiscriminate administration and the necessity for having the law changed.

Dr. Swineford, closing the discussion: I appreciate Dr. Blanton's excellent discussion. I do not see that there is anything to add to it. I should like to second all his warnings about the indiscriminate use of these potentially dangerous drugs.

Floral Eponym
Vallisneria

Antonio Vallisneri (1661-1730)

Vallisneria or eel-grass is sometimes called tape-grass or wild celery. It is a favorite food of wild duck.

Vallisneri was a well known Italian naturalist, who was born in the city of Modène. He was professor of natural history at the University of Padua. He experimented upon the life and generation of insects, and was an opponent of the doctrine of spontaneous generation.

BENIGN LESIONS OF THE STOMACH#

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and
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In the limited time available, an attempt will be made to cover the vast subject of benign lesions of the stomach. We cannot go into detail on the many facets we would like to discuss but shall try to pick certain subjects which would be of general interest. Our exhibit on the same subject is on display, and I am sure it will answer some of the questions which will occur to you at some time during the presentation.

We have examined several books on general medicine[1,2], gastroenterology[3,4] and radiology[5,6]. Every author appears to have a classification of his own and not one seems to be completely satisfactory. We have assembled one of our own, derived from several sources[7,8,9,10], and based on etiology. Like other tables, it has disadvantages. Lesions caused by one group of agents may differ from each other and more closely resemble those in another group. However, the advantage of this classification is that, were the etiology determined, more definitive treatment could be instituted.

The stomach is a muscular hollow tube lined internally by a mucosa which is thrown up into folds and contains glands capable of secreting an acid secretion, pepsin, and mucus. It is covered externally by the serosa. It is nourished by an ample blood supply and drained by lymphatic channels. It is innervated by nerves from the sympathetic and parasympathetic nervous systems. The stomach reacts to injury or noxious agents in one of several ways, depending upon the extent of the insult. It follows naturally that a given cause may produce a greater or lesser effect in different individuals and that different causes may exhibit the same type of lesion. The pathologic changes that can occur are manifested by inflammation, atrophy, hypertrophy, degeneration, fibrosis, ulceration and tumor formation, no matter what the cause.

CLASSIFICATION OF BENIGN LESIONS OF THE STOMACH

I. Congenital.
   Absence of the stomach; thoracic stomach; transposition of the stomach; ectopic stomach; double stomach; inversion of the stomach; hour glass stomach; cascade stomach; micro and megagastrica; stenosis of the pylorus; atresia of the pylorus or cardia; pylorospasm; diverticulae.
II. Inflammatory; due to a specific organism.
   A. Acute phlegmonous gastritis, due to pyogenic organisms.
   B. Chronic gastritis, due to tuberculosis, syphilis or actinomycosis.
III. Non-specific, non-inflammatory.
   A. Acute gastritis.
   B. Chronic hypertrophic gastritis.
      1. General.
      2. Local; redundancy of mucosa with prolapse into the pyloric canal or esophagus.
   C. Chronic atrophic gastritis.
   D. Benign hypertrophic pyloric stenosis.
   E. Granulomas.
IV. Physical Agents.
   A. Irritants
      1. Foods; alcohol, condiments, strong tea and coffee; nicotine.
      2. Drugs; salicylates, ammonium chloride, quinine, cinchophen, aspirin.
      3. Swallowing of pathogenic bacteria and toxins.
      4. Ingestion of coal dust and silicates.

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B. Corrosives.
C. Irradiation.
D. Trauma.
E. Foreign bodies, bezoars, gall stones.
F. Post-operative stomach — following anastomotic operations and post vagotomy.

V. Peptic ulcer.

VI. Benign neoplasms.
Polyps; adenomas; leiomyomas; papilloma; lipoma; phantom tumor; osteoma; cysts; myxoma; hemangioma; fibroma; lymphadenoma; neurofibroma; aberrant pancreatic tissue.

VII. Manifestations of Systemic Disease.
A. Arteriosclerosis.
B. Pernicious anemia; sprue; cord degeneration; iron deficiency anemia.
C. Polyarteritis nodosa.
D. Telangiectasia.
E. Lead poisoning; other organic and inorganic poisons.
F. Sarcoidosis.
G. Allergy.
H. Avitaminosis.
I. Stomach in skin diseases.
J. Many acute infections, as typhoid fever, influenza, etc.
K. Uremia.

VIII. Neurogenic and Reflex.

IX. Miscellaneous.
Varices; hernia; acquired diverticulae; volvulus; intussusception; calcification; pressure from extrinsic tumors.

Since we are chiefly concerned with the roentgenographic diagnosis, we can limit our discussion to a few representative groups. It is understood that no true diagnosis can be made without a detailed history, physical examination, certain laboratory tests and, in many cases, a gastroscopic examination. However, we wish to show cases illustrating typical lesions produced by various diseases.

The congenital group of lesions is self-explanatory and needs no further comment. They are not too common and are not of great moment, with the possible exception of congenital pyloric stenosis in infants. Certain of these, in particular, stenosis and deformities of shape, may also be the result of inflammation, peptic ulcer, carcinoma, corrosives, and neurogenic dysfunction.

Schindler[11] has stated that the most common lesion of the stomach is a gastritis. Not only may it be caused by numerous agents, but it commonly occurs in conjunction with other lesions. William Beaumont[12], in 1833, described the results of a series of experiments on Alexis St. Martin who had a gastric fistula. His observations were made under direct vision and are classic in their description. He described the changes in the stomach following the ingestion of food, liquids and other substances. He noted the swelling and redness of the mucous membrane, along with the oozing of blood and increased mucus secretion. Wolf and Wolff[13], also under direct vision, described the effects in the stomach after emotional stimuli. All of these changes can be seen in acute gastritis. There are many varieties of gastritis and Schindler[11] has made a rather detailed classification. It is stated that the diagnosis of acute gastritis should not be made unless a gastroscopic examination has been performed. Superficial and atrophic gastritis may show no roentgenographic findings. Many of you can remember patients who complained of bleeding from the upper gastrointestinal tract who showed no abnormal findings on X-ray examination. They probably fall into this class.

The two most common lesions which have to be differentiated radiographically are peptic ulcer and malignancy.

Gastric ulcers usually occur on the lesser curvature of the stomach, proximal to the incisura angularis up to one inch or more distal to the cardia. The niche usually projects well beyond the contour of the stomach and is smooth in outline. The ulcer is usually small and there may be other ulcers, especially in the duodenum. Opposite the niche a deep spastic incisura is present. However, all of these findings may not be present, thus leading to difficulties in diagnosis. To further add to the difficulty is the disagreement between the pathologists and the radiologists as to where the pylorus ends and the duodenum begins. This is important, because carcinoma of the duodenum is extremely uncommon, while carcinoma of the pylorus and prepyloric region is fairly common. A similar roentgenographic appearance may be observed in arteriosclerosis, syphilis, tuberculosis of the stomach, polyarteritis nodosa, Hodgkin's disease, chronic hypertrophic gastritis, following the ingestion of corrosives, and carcinoma.

CASE REPORTS

Case I. J. G. T. White male, age 76, developed a lump in the left side of the neck six weeks before admission to the hospital on July 29, 1948. A section was removed for biopsy. Microscopic examination revealed the tissue to be neoplastic, simulating lymphoepithelioma of the nasopharynx (of Schmincke), but the type was not too definite. X-ray of the chest, barium enema and G.I. series were all negative. He was transferred to Veterans Administration Hospital, Richmond, Virginia, on September 10, 1948. The mass in the neck was irradiated and promptly disappeared. He complained at times of a vague sort of indigestion which was controlled by an ulcer regime. G.I. series, on September 21, 1948, was reported as showing a defect on the greater curvature of the midportion of the duodenal bulb, consistent with duodenal ulcer or periduodenal adhesions. He was readmitted to the latter hospital on December 17, 1948, for further irradiation of the left supraclavicular and right submental regions. A basal cell carcinoma of the right cheek was removed at the same time. He was readmitted to this hospital on February 28, 1949, for terminal care. He died on March 7, 1949. At autopsy there was a deep ulcer 5 cm. in diameter involving the prepyloric portion of the stomach, along the greater curvature, which had penetrated all the coats but had not perforated. The duodenum showed no ulceration. Microscopic examination of the ulcer base revealed Hodgkin's disease. In addition, there was involvement of the liver, spleen, and lymph nodes. The diagnosis was confirmed by the Army Institute of Pathology.

Case II. J. C. White male, age 48, was admitted to this hospital on October 17, 1946, as a transfer from another hospital because of vomiting of large clots of blood. He gave a history of stomach trouble since 1942, consisting of indigestion that appeared one to two hours after meals which was relieved by milk or antacids. He was discharged from the Service in 1942 with a diagnosis of duodenal ulcer. G.I. series revealed deformity, irregularity and tenderness in the prepyloric region of the stomach. Gastric analysis showed 70° of total acid with 35° of free HCl. A subtotal gastrectomy was performed on November 13, 1946. The Surgeon found ulceration of the pylorus on the posterior surface extending down to the duodenum. There were several small glands along the border of the stomach and there was in-

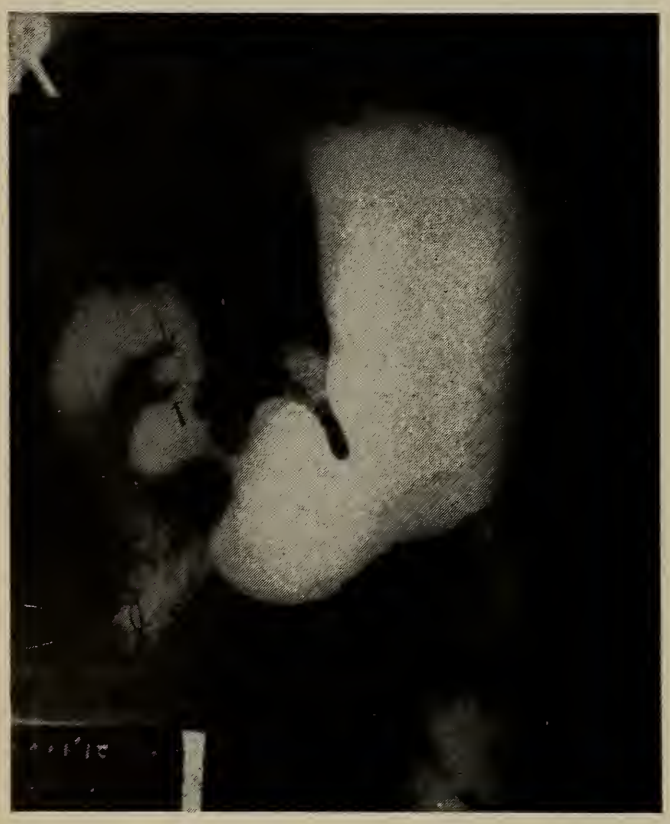

Fig I. Case I. J.G.T. September 21, 1948. Hodgkin's Ulcer of the Stomach.

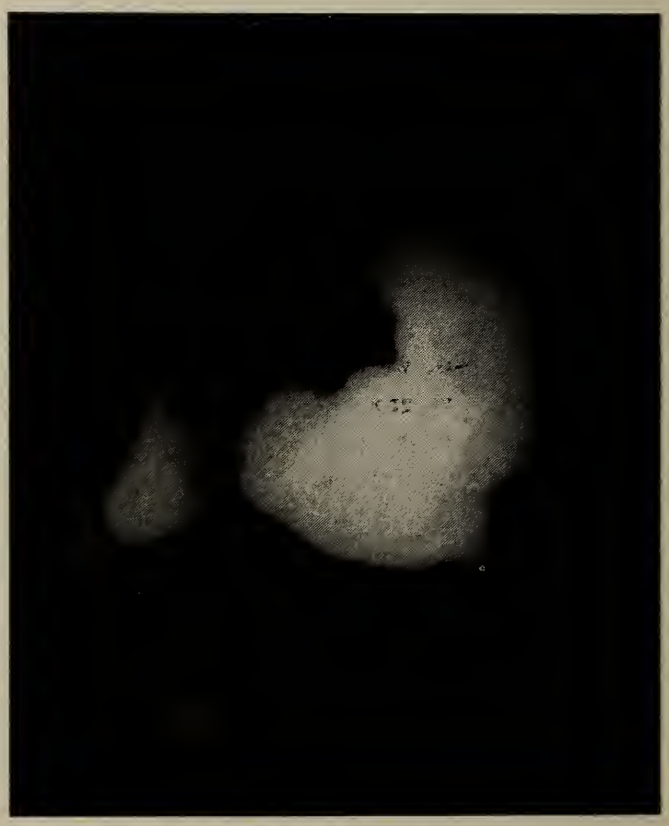

Fig. II. Case II. J.C. November 4, 1946. Polyarteritis Nodosa of the Stomach.

duration of the pancreas. Following operation he continued to run an irregular elevated temperature, developed weakness and numbness in his legs and unsteadiness in walking. He continued to lose weight and showed signs of avitaminosis. He developed an anemia and had a persistent leucocytosis. Repeat G.I. series showed no evidence of active disease. He died on May 13, 1947. At autopsy typical lesions of polyarteritis nodosa were found in the spleen and pancreas. Review of the slides of the resected stomach showed similar lesions. The Army Institute of Pathology agreed with this diagnosis.

Case III. M. H. Negro male, age 58, who had mild diabetes, CNS syphilis and transverse myelitis, reported to the laboratory for a blood sugar determination. The technician noticed that he was pale. He did a blood count and it showed a severe anemia with a hemoglobin of 25%. He was admitted to the hospital on December 8, 1947. He had been hospitalized here three months previously because of vomiting, dizziness, and unconsciousness. Following discharge from the hospital, he had several black stools. G.I. series, on January 6, 1948, showed an irregular filling defect involving the "pyloric inch of the stomach". The appearance was suggestive of a prepyloric ulcer. Gastric analysis after histamine showed a total acid of 44° with 22° of free HCl. The blood serology was negative. Repeat G.I. series, on February 17, 1948, was reported as essentially normal. He was readmitted to the hospital on November 22, 1948, because of hematemesis. G.I. series, on December 8, 1948, showed normal peristaltic activity. There was tenderness to palpation along the lesser curvature aspect of the stomach in the region of the pars media. In this area there appeared to be a small niche measuring 0.5 cm. in diameter. The appearance was that of an ulcer crater. There was no spasticity on the corresponding portion of the greater curvature. An exploratory laparotomy was performed on January 18, 1949. A tremendous carcinoma of the cardia was found. This had involved the posterior wall and had invaded the pancreas and liver. It definitely was inoperable; therefore, no further surgery was done. He died on January 19, 1949.

Case IV. C. M. W. Negro male, age 59, was admitted to the hospital on January 15, 1947, because of pain in the stomach occurring three-quarters to one hour after meals, and night pain. Relief was obtained by alkalis or milk. He had several hemor-

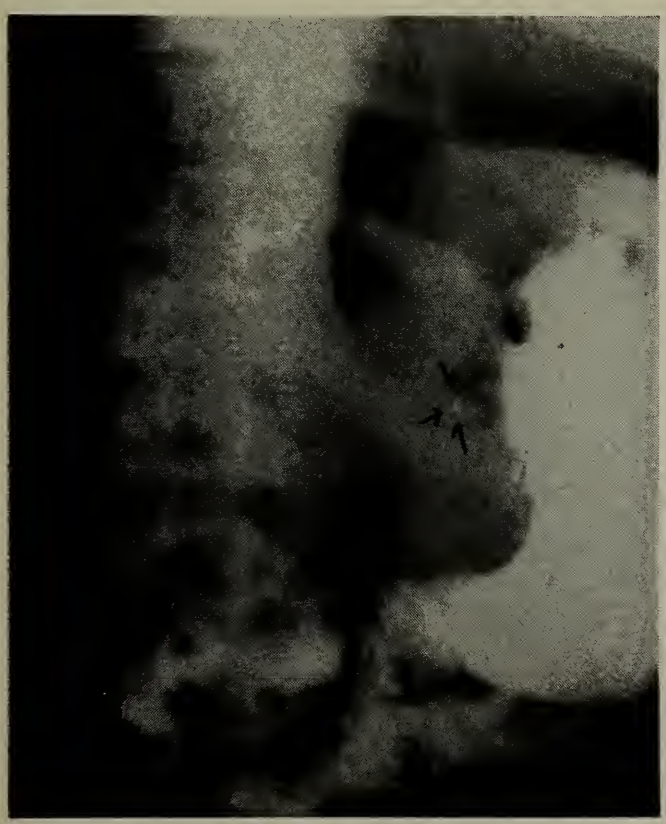

Fig. III. Case III. M.H. December 8, 1948. Carcinoma of the Cardia of the Stomach.

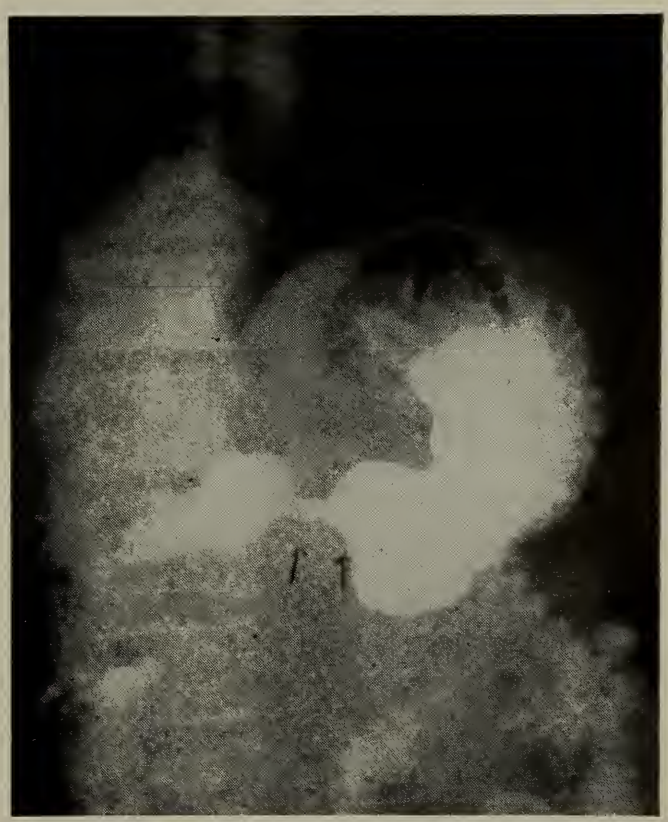

Fig. IV. Case IV. C.M.W. December 13, 1948. Hypertrophy of the Pylorus and a Fecalith in the Soft Tissues Between the Duodenum and the Head of the Pancreas.

rhages. The onset of symptoms was in 1936. G.I. series, on January 14, 1947, prior to admission, showed a fairly large defect, measuring about 4.5 cms. in length, involving the pyloric portion of the stomach on its greater curvature side. No peristaltic waves could be seen passing through this area. This was interpreted as suggestive of a new growth in that area. He refused gastric analysis and surgery and was consequently discharged when his symptoms abated. He was readmitted to the hospital on October 3, 1947, because of vomiting and umbilical pain. Repeat G.I. series was done on October 20, 1947. There was tenderness involving the prepyloric portion of the stomach. This area was spastic and somewhat deformed. On the six hour film there was slight retention of the barium within the stomach. This was interpreted as showing an active prepyloric ulcer. Gastric analysis revealed free HCl ½ hour after the giving of histamine. He again refused surgery. The G.I. series was repeated in December, 1948, and March, 1949, and the same findings were observed. He was readmitted to the hospital on January 13, 1950, because of epigastric pain and the vomiting of blood. G.I. series was done on January 7, 1950. This again showed no change from the previous ones. An exploratory laparotomy was done on January 31, 1950. There was an area of moderate thickening of the stomach wall anteriorly near the greater curvature in the prepyloric region. The stomach was opened in this area but no signs of ulceration or inflammation were found. No further surgery was done. About three weeks later he developed a massive cerebral hemorrhage, from which he died on February 21, 1950. Autopsy revealed the stomach at the area of incision to be considerably thickened (affecting the mucosa and muscularis). On microscopic examination no remarkable changes were found. However, there was a fecalith in the soft tissue between the duodenum and the head of the pancreas. This had apparently originated from a ruptured diverticulum of the colon many years ago. This had caused the defect as seen on the X-ray films. Diverticulitis of the colon was also present.

The roentgenographic appearance of carcinoma of the stomach may manifest itself as an ulcer (especially if large and on the greater curvature), infiltration (meniscus sign), constricting fibrotic defect (hour glass stomach), defects due to pyloric stenosis and diffuse fibrosis (leather bottle stomach). However, these various signs are not all present at the same time and the same appearance may be given by various benign lesions, such as phlegmonous gastritis, benign peptic ulcer, syphilis of the stomach, chronic hypertrophic gastritis, benign tumors, granulomas, and neurogenic dysfunction.

Case V. R. H. K. White male, age 54, was admitted to the hospital on November 19, 1948, complaining of severe periumbilical pain, most marked in the mid-afternoon, of gradually increasing severity for the past two years. G.I. series, on November 24, 1948, showed some decrease in peristalsis in the antral portion of the stomach. There was marked hypertrophy of the rugae in the antrum, with irregular deformity on the lesser curvature aspect of the stomach distal to the incisura. There also appeared to be a shelf-like defect on the greater curvature aspect of the stomach in the distal pyloric portion of the stomach. This area was tender to deep palpation. This was interpreted as suggestive of a malignant ulcer and hypertrophic gastritis. Two repeat G.I. series were made, the last one about two months after admission, and both showed no change. Gastric analysis showed a total acid of 97° while the free HCl was 83°. A subtotal gastrectomy was per-

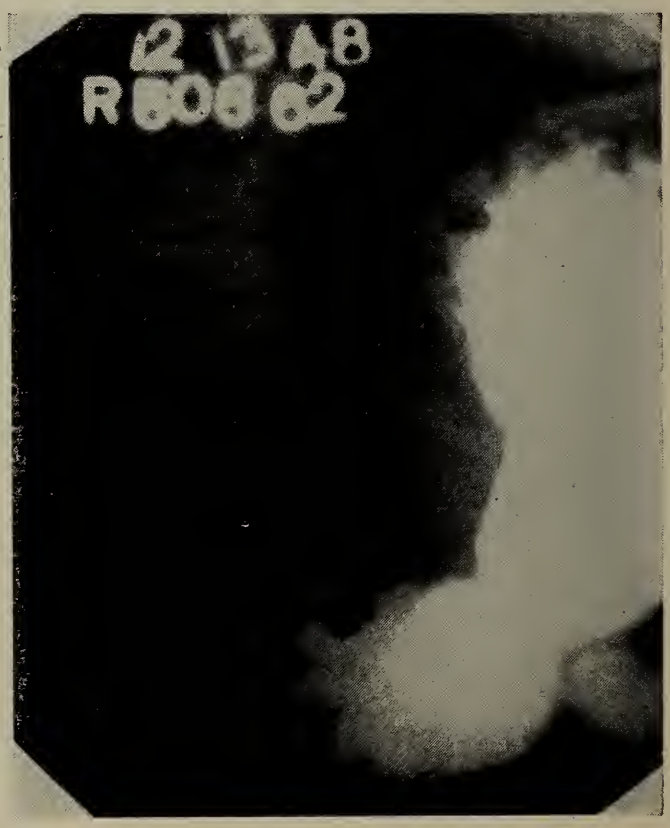

Fig. V. Case V. R.H.K. December 13, 1948 Hypertrophic Gastritis.

formed on January 14, 1949. The surgeon found a mass in the antral portion of the stomach that had the consistency of redundant gastric mucosa. This had a tendency to herniate into the duodenum, the first portion of which was markedly enlarged. The herniation could be easily reduced back into the stomach. Examination of the specimen revealed prominent rugae which appeared to converge towards the midportion of the lesser curvature. There was no evidence of ulceration. On microscopic examination only a chronic gastritis was found.

Case VI. D. C. White male, age 53, was admitted to the hospital on September 28, 1947. He complained of symptoms of three weeks duration consisting of epigastric pain, fainting, tarry stools, weakness, anorexia and a 20 lb. weight loss. He vomited "coffee ground" material on one occasion. G.I. series, on October 6, 1947, showed a large smooth spherical defect measuring almost 4 cm. in diameter on the posterior wall of the stomach proximal to the incisura. The central portion of the lesion showed a crater measuring 1.5 cm. in diameter. No rugae could be seen running through this area. Gastric analysis showed 133° of total acid, while the free HCl was 90°. Exploratory laparotomy was done on October 28, 1947. A mass was found within the wall of the stomach on the anterior surface in the mid body near the lesser curvature. It could be easily displaced and a crater could be felt in it. The stomach was resected. The specimen showed a polyp-like mass 5 x 3½ cm., on the surface of which were two ulcerated areas. On microscopic examination this was shown to be a neurofibroma.

Case VII. W. H. B. Negro male, age 68, was admitted to the hospital on January 3, 1949. About six months prior to admission he began to develop cramping pain in the left part of the epigastrium radiating to the left flank and to the precordium. The pain was nearly constant and not affected by food or soda. He had lost considerable weight. However, he had had some trouble with his stomach for the past 35 years (abdominal pain, occurring one to two hours after eating and lasting for one or more hours). G.I. series on January 10, 1949, showed decrease in peristaltic activity of the stomach. There appeared to be marked narrowing of the antral portion of the stomach with some upward displacement of the proximal portion of the antrum. This portion of the stomach was somewhat rigid and tender to palpation. This was interpreted as consistent with

Fig. VI. Case VI. D.C. October 6, 1947. Neurofibroma of the Stomach.

Fig. VII. Case VII. W.H.B. January 10, 1949. Chronic Gastritis.

a new growth. Gastric analysis showed a total acid of 18° with 4° of free HCl. A subtotal gastrectomy was performed on January 19, 1949. The surgeon found only prepyloric thickening of the stomach wall near the lesser curvature. The specimen showed normal rugae and no evidence of ulceration, past or present. On microscopic examination only a minimal amount of chronic gastritis could be found. He died one week after operation from pulmonary edema. At autopsy no signs of malignancy were found anywhere.

Case VIII. H. L. C. Negro male, age 29, was admitted to the hospital on March 29, 1949, stating that for the past five months he had gas and vomiting. He had lost 30 pounds in weight. He had had no pain. G.I. series, on April 6, 1949, showed decreased peristalsis. The antral portion of the stomach appeared to be elongated and greatly narrowed, and only a thin stream of barium could be seen passing through this portion of the stomach into the duodenum. There was marked tenderness to palpation over this area. On the 6 hour film the stomach showed complete retention of the barium. This was interpreted as suggestive of a new growth. Gastric analysis showed a total acid of 6° with no free HCl.

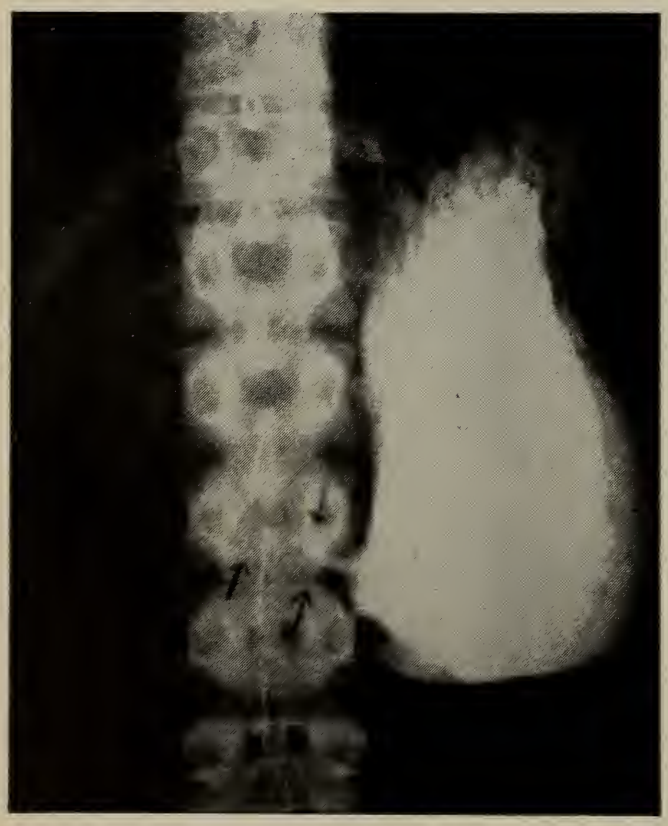

Fig VIII. Case VIII. H.L.C. April 6, 1949. Syphilis of the Stomach.

The Wassermann and Kahn were strongly positive. He had received 6,000,000 units of penicillin I.M. for syphilis in the Army six months previously. He received another 6,750,000 units of penicillin I.M. while in this hospital. Because his symptoms were unrelieved, an exploratory laparotomy was performed on May 5, 1949. There was cicatricial contracture and obstruction of the pylorus with thickening and induration of the prepyloric region for 1½ inches proximal to the pylorus. There was hypertrophy of the lymph nodes about the duodenum and the lesser curvature of the stomach. A subtotal gastrectomy was performed. The specimen showed the pylorus to be narrowed and there was a prepyloric ulcer 6 x 6 cm. completely encircling the stomach in this area and extending deeply into the muscularis. The microscopic findings were compatible with a syphilitic ulcer. The Army Institute of Pathology agreed with this diagnosis.

Benign neoplasms show nothing distinctive radiographically and may simulate either ulcer or malignancy.

Foreign bodies of all sorts have been found in the stomach. They chiefly occur in children and in the insane. If they are metallic they are readily visualized. Bezoars are composed of either animal, vegetable, or mineral products. On X-ray examination they may simulate a large gas bubble which is movable.

It would be obviously impossible in this short paper to describe the roentgenographic appearance of the stomach in all the diseases listed in the classification. We have tried to show that the X-ray appearance is not pathognomonic of any one lesion. Similar lesions may be produced by various agents. A rather large etiologic classification has been presented to show that the stomach is more frequently involved in disease states than we have been aware. This should stress the value of the history, physical examination, laboratory aids and gastroscopic examination in making the diagnosis.

SUMMARY

1. An etiologic classification of benign lesions of the stomach has been presented.
2. The presentation was limited to the roentgenographic appearance of lesions.
3. Cases were presented which showed typical

roentgenographic findings of ulcer or carcinoma, but which were due to a variety of causes.

4. This was explained on the basis of the physiopathologic response inherent in the tissues that make up the stomach.
5. It is important that we keep in mind that the stomach is so frequenly affected by disease and from so many different causes.
6. The roentgenographic appearance is suggestive but not pathognomonic of any one lesion. In fact, some lesions may not be visible radiographically.
7. It is urged that before a definite diagnosis of gastric disease is made on roentgenographic findings, an adequate history be taken, a good physical examination be performed, and the patient evaluated as a whole. Laboratory examinations of various sorts and gastroscopic examination should then be done to further clarify the diagnosis. Even then, the exact diagnosis may be in doubt to await the result of treatment and serial X-rays.

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Discussion

Dr. C. M. Caravati, Richmond: The interesting and unusual material presented demonstrates decisively that a conclusive *clinical* diagnosis of gastric lesions is not often possible. Barium studies and gastroscopy are the only means of localizing the pathology; but these often fail in determining the etiology, except when a representative biopsy can be secured through the operating gastroscope. The pathologist not infrequently cannot ascertain the exact diagnosis, as in *Case VIII* of the authors, where the microscopic findings were suggestive but not conclusive of lues.

The most common benign gastric disorders are gastritis and ulcer. Gastritis, only of the hypertrophic type, may be suggested by the radiographic appearance and confirmed by direct visualization with the gastroscope. The following cases are illustrative:

Case No. 1. History and X-ray suggested lymphosarcoma. At laparotomy and biopsy hypertrophic gastritis was demonstrated.

Case No. 2. Story of pyloric obstruction. X-ray showed constant prepyloric defect, thought to be cancer. Gastroscopy showed chronic hypertrophic gastritis, which was confirmed after surgery.

As the authors emphasize, benign peptic ulcers are most commonly found on the lesser curvature, proximal to the incisura angularis. In contrast, ulcerative defects in the prepyloric and apparently on the greater curvature are expected to be found malignant, though experience has shown that many of these lesions are essentially benign.

Case No. 1. Typical peptic ulcer on lesser curvature with healing under appropriate treatment.

Case No. 2. Prepyloric lesion healed and patient asymptomatic now for seven years.

Case No. 3. Extensive prepyloric, greater curvature ulcer in seventy year man thought to be cancer, but proven benign. Recovery. Well after four years.

Case No. 4. Marked antral defect in fifty-three-year-old male, thought to have been malignant but found to be benign.

The authors' experience and the above cases briefly outlined serve to emphasize that with our present armamentarium, including X-ray, gastroscopy and Papanicolaou stains, a positive pre-operative diagnosis of gastric pathology is seldom possible. By inference, Dr. Nushan and his co-workers stress the importance of the intelligent use of all available procedures, including surgery, to determine the etiology of a given lesion.

We are indebted to the authors for presenting to us many incidences of unusual gastric pathology and a new and practical classification of "Benign Lesions of the Stomach".

THE DIAGNOSIS AND TREATMENT OF THE MIGRAINE SYNDROME AND RELATED VASCULAR HEADACHES*

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Headache as a complaint or symptom is encountered almost daily by practically all physicians regardless of their specialty. At one time or another almost 100 per cent of our population suffers from some type of this malady. During the recent war, studies of 10,000 army men between the ages of 18 and 36 revealed that 8 per cent suffered from "sick headaches".[1] Other investigators seem to substantiate this incidence.[2,3] It has been estimated that at least 12 million persons suffer from migraine in this country. No one knows how many additional patients suffer from related migraine variants.

It is generally thought at the present time that the migraine headache and its variants are intimately related in part to disturbances of the cerebral vascular system. Time and space will limit this paper to a discussion of the current ideas about the pathogenesis, diagnosis and treatment of these so called vascular headaches.

PATHOGENESIS—ORGANIC

Pain from within the head does not emanate directly from the parenchyma of the brain but from its supporting and vascular structures.[4] Wolff[1] and others have shown conclusively that migraine preheadache and headache phenomena represent derangements in cranial vascular function. Pre-headache phenomena which include scotoma, hemianopia, unilateral paresthesia, speech disorders and mood changes are apparently the result of cranial vasoconstriction. Evidence indicates that it is dilatation rather than contraction of arteries which causes vascular pain, although traction upon or displacement of certain cranial blood vessels may produce deep head pain.[1] The middle meningeal artery, arteries at the base of the brain, and some scalp arteries including the temporal arteries are equipped with afferent nerve fibers and conduct only those impulses resulting in pain. Headache, identical to migraine, has been reproduced by mechanical distention of the cranial arteries and relieved by inducing vasoconstriction.[1] Constriction and dilatation of certain cranial arteries, then, in susceptible people, can and do produce preheadache and headache phenomena.

PATHOGENESIS—FUNCTIONAL

The vascular theory does not explain entirely the etiology of these complex headaches. Why they should occur in some and not in others is not clear, nor is the high incidence of headaches at the time of menstruation explainable. It has long been known, however, that persons suffering from vascular headaches usually have a similar personality pattern. As a rule these people are overly conscientious, meticulous and perfectionists. They are tense, striving individuals, and as they grow older and less efficient their failure to achieve perfection leads to deep seated frustration. They become intolerant of their failures in themselves and impatient and irritable with others. It seems that these people are pre-disposed and equipped with certain psychobiologic patterns which make them susceptible to pernicious emotional states. A constellation of disturbing influences swiftly develops into violent emotional patterns, which, in turn, precipitate the chain of reactions leading to severe head pain.

TYPES OF VASCULAR HEADACHES

Although closely related in origin both organically and functionally, vascular headaches can be divided into three specific clinical types; migraine, histamine cephalgia and tension headaches.

MIGRAINE

Migraine attacks are characterized by their periodicity and often by a family history of similar attacks. They usually are preceded by an aura which may be in many varied forms, which include scotoma, paresthesias, mood changes, diplopia or hemianopia, speech disorders, etc. These prodromal phenomena last from a few minutes to an hour, followed by a brief symptom-free phase, and are thought to be due to cranial vasoconstriction.

Then, however, the cranial vessels dilate, and the headache begins and becomes progressively worse.

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It is usually unilateral and is an intense throbbing pain. Photophobia, mood changes, nausea and vomiting develop. The intensity of the pain may vary, and the attack may last for minutes, hours or days; and in the longer episodes the patient becomes markedly depressed, impulsive and hostile. Other bodily functions may be involved and to varying degrees. The attack eventually subsides and is often followed by a feeling of well being and frequently soreness in the neck muscles.

Histamine Cephalgia

Closely related to migraine is another type of painful vascular disorders of the head described by Horton as "Histamine Cephalgia".[5] Pain is the outstanding complaint of these headaches. It is intense, constant and boring or burning in type. The pain is unilateral and usually conforms to ramifications of the external carotid artery involving the eye, temple, neck and face. At one time or another many people with this type of head pain contemplate suicide, so severe is the pain.

This type of headache is usually of short duration, lasting, as a rule, less than an hour. It frequently comes on at night after several hours of sleep. Its onset is very sudden and is generally helped by sitting or walking. Associated with this head pain is usually a sense of stuffiness of the nostril, watering of the eye and localized perspiration on the affected side. Nausea, vomiting and scotoma do not occur and there is no family history of headaches.

These headaches may be induced in the average patient who is subject to histamine cephalgia by the subcutaneous injection of 0.35 mgm. of histamine base. When this injection is given, usually an immediate generalized headache follows, but in about 30-40 minutes there is a severe unilateral histamine cephalgia which is indistinguishable from the spontaneous attack.

The exact mechanism of vasodilatation during histamine cephalgia is not known. Histamine, which is a powerful vasodilator agent, is probably liberated locally, but this is yet to be demonstrated. It is interesting, however, that the pain of migraine cannot be induced by giving histamine base hypodermically and that a large majority of patients with histamine cephalgia can be relieved by courses of histamine desensitization, as will be described later.

Tension Headaches

Probably the largest group of vascular headaches are the tension headaches. These develop following or during periods of nervous tension. The pain, although not as severe as migraine or histamine cephalgia, is worse than the usual headache. It is generalized, but more intense in the occipital region. As a rule no prodromal symptoms precede the attack and, unlike migraine, there is no hereditary factor. As with most vascular headaches, however,

	Migraine	Histamine Cephalgia	Tension Headache
Heredity	Present in 60-70% cases	None	None
Prodromal Symptoms	Usually present	None	None
Duration	Minutes to days	Usually less than an hour	No pattern
Onset	Abrupt to gradual	Abrupt	No pattern
Time	During the day	Usually when asleep	End of day or weekend
Pain	Intense, throbbing unilateral or generalized	Severe, boring, burning unilateral	Generalized and less severe
Visual Disturbances	Usually present	Less frequent	Uncommon
Lacrimation, Nasal stuffiness	Unusual	Very common	Unusual
Nausea and Vomiting	Usually present	Rare	Unusual
Residual tenderness of head and neck	Common	Unusual	Common
Histamine test	Negative	Positive	Negative

Chart I. Salient Clinical Features in Differentiating Migraine, Histamine Cephalgia and Tension Headaches.

there is usually an underlying emotional disturbance.

During periods of nervous tension, a state of hypertonicity exists. Eventually a period of hypotonicity follows which is due to "vascular fatigue" or to relief from the factors causing the nervous strain. Cranial vasodilatation occurs at this time and the pain-sensitive structures may be stimulated. The headache may be localized or generalized, depending on vessels involved.[4]

TREATMENT

In the treatment of the vascular headache, it is, of course, desirable to determine which type is represented. This is at times most difficult as there may be considerable overlapping. The classical features of each type are summarized in Chart I and are of help in differential diagnosis.

Treatment of the vascular headache should include both immediate symptomatic relief and measures which will prevent, if possible, the recurrence of the headache. So often this latter phase is entirely neglected.

The large variety of therapeutic measures used in the treatment of migraine indicates the lack of any specific treatment. In the past, surgical removal of various sympathetic ganglia, turbinates, and resection of certain of the cranial arteries and nerves have been tried with unsuccessful results.[6] Medical management including special diets, desensitization to various allergies, warm baths, vasodilators, massage, traction and such drugs as thiocyanate, calcium and potassium have not reduced the severity or frequency of migraine attacks. Recently Macy and Horton[7] have reported encouraging results with the use of intravenous histamine.

In treating the migraine attack the drug of choice is ergotamine tartrate parenterally. The efficiency of this drug depends upon its vasoconstricting ability which interrupts the pain producing mechanisms.[9] This drug may be given orally, rectally, or parenterally. Dihydroergotamine methane sulfonate (D.H.E.45) in 1 to 2 cc. doses intravenously is often more effective in very severe or prolonged migrainous attack or in the cases which cannot tolerate ergotamine tartrate orally.

The recent combination of 100 mgm. of caffeine with 1 mgm. of gynergan has proved to be the most effective oral or rectally given drug in treating the early migraine attack. The dosage of this drug is usually from 2 to 6 tablets, depending upon the severity of the attack and the individual response. The drug is contraindicated in patients with hypertension, pregnancy, liver disease, nephritis, or peripheral vascular disease and large doses should be avoided because of possible ergot poisoning. Hansel,[9] Ryan[10] and Horton,[11] and numerous others have reported enthusiastically on the effectiveness of this preparation in the treatment of migraine and other vascular headaches. Early observations in the Medical Clinic of the Outpatient Department of The Medical College of Virginia seem to confirm these reports and will be the subject of a later report.

Symptomatic relief for the attack of histamine cephalgia can usually be obtained by intravenous dihydroergotamine or by epinepherine 1:400,000 intravenously. Caffeine with gynergan, if taken early in the attack, is also very effective. Treatment of the individual attack does not usually constitute the problem that the headache of migraine does since these are of shorter duration. Prophylactic treatment with the use of histamine desensitization is of great importance in this type of headache. Horton[5] has advised that a solution of histamine diphosphate 0.275 mgm. per cc. be used. Treatment consists of subcutaneous injections given twice daily beginning with 0.1 cc. and increasing 0.05 cc. each dose. Occasionally an injection causes headache or flushing of the face and then the subsequent injection is reduced 50 per cent and the doses thereafter should be gradually increased as before. When 1.0 cc. per injection is reached, the time interval is gradually spread to 1.0 cc. every other day, and finally a maintenance dose of 1.0 cc. once or twice weekly is given indefinitely. By this time the great majority of these patients have received complete relief and of these it has been shown that in those who keep up the maintenance dose the likelihood of recurrence is markedly diminished.[7] Although with results probably not quite as effective as when twice daily injections are given, the author has obtained many excellent responses following the desensitization on a one injection a day routine.

Histamine desensitization may also be carried out intravenously. This is done by daily intravenous injections by the continuous drip method of a solution of 2.75 mgm. of histamine diphosphate in 250 cc. normal saline. The solution is given slowly and is discontinued as soon as symptoms such as flush-

ing, headache, or other reactions occur. Gradually the patient will be able to tolerate more and more of the solution until finally at the end of about two weeks the entire 2.75 mgm. can be given without symptoms. At this time, it is recommended that the patient be maintained on a 0.275 mgm. subcutaneous injection twice weekly.

In relieving the tension headaches, the underlying cause must be corrected. While this is being done efforts toward improving the basic vascular disturbance must be carried out. Relief from the headache often coincides with the vascular response. Ergotamine tartrate, dihydroergotamine or ergotamine with caffeine are the drugs of choice. Usually a mild sedative between attacks is beneficial.

More important than treating the immediate attack of head pain is the prevention of its recurrence. This may in part be influenced, as mentioned above, by histamine desensitization or by sedation, but in almost all of the cases of vascular headaches careful and skillful psychotherapy is indicated. The patient must be made to realize through convincing explanation that his headaches are the reactions or complaints of his body to the stress and strain of his own way of life. Ideally he should be taught to relax more, to decrease his day's activities by perhaps 25 per cent and to compete less with his fellow man. These people need emotional guidance, a sympathetic understanding and individual care from their physician. In the words of Sir William Osler in speaking of migraine, "the greatest folly of all is to treat all patients and every attack alike." The tablet or hypodermic should be regarded as only temporary aids in treating a chronic but often curable disease, and the incidence of attacks should be the true index of the success of treatment.

Summary

The migraine syndrome, histamine cephalgia and tension headaches are currently thought to be due to derangements in cranial vascular function. Preheadache phenomena are probably due to cranial arterial vasoconstriction which occurs in hypertonic states. The period of hypotonicity which follows these states is accompanied by dilatation of one or more of the cranial vessels. Certain of these vessels have afferent pain fiber end organs and vasodilation causes stimulation of these fibers with resultant head pain. The usual person with vascular headaches has a common personality pattern. These people are overly conscientious, ambitious, meticulous and high strung.

The clinical features of these headaches are discussed in detail together with differential diagnosis. Therapeutic measures for the individual attack should include sedation and the proper use of ergotamine tartrate, dihydroergotamine or the preparation combining caffeine with ergotrate which can be taken orally. The prophylactic management of histamine cephalgia and migraine by histamine desensitization is discussed in detail.

Finally, the importance of psychotherapy in the prophylactic treatment of patients with vascular headache is stressed. It is felt that if adequate, patient and sympathetic attention is given these patients over a long period of time, together with sound emotional guidance and advice towards reorganizing their activities, that the frequency of the attacks of head pain can be markedly reduced.

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DISCUSSION

DR. GEORGE B. CRADDOCK, Lynchburg: Dr. Higgins has given us as clear and concise a discussion on vascular headache as is possible in the time allotted. He has described the type of patient in which these headaches are most likely to occur and the pathological physiology of the production of the headache. He has also outlined well a method of handling and treating these individuals. I shall try to elaborate a bit on a few points.

First, since the idea that migraine and epilepsy are related has been abandoned by the medical profession, the diagnosis of migraine can be made without stigma; and this diagnosis, with re-assurance of the absence of other organic diseases (as brain tumor), will be very helpful to many patients and in some, whose symptoms are not disabling enough to require further treatment, will be all that is necessary in handling them.

Another point is that, as Dr. Higgins has pointed out, most of these headaches become more numerous during periods of stress. However, it is more often after the stress has lessened, as during the first day or two of a vacation or during a week-end, that the headache will be most likely to occur. A person usually puts on his greatest "steam" to finish up his work and get his affairs in order before a vacation, and the first day or two of his vacation is when he is most likely to have the headache.

I disagree with one point in the time of the migraine headache. I have found it most likely to occur on awakening in the morning.

Hypertensive headache is a vascular headache about which something might be added. Wolff states that, other than the headache of hypertensive encephalopathy, other headaches in hypertensives resemble closely migraine headaches. He notes that many of these patients do not develop headaches until they develop sustained elevation in blood pressure. Others with headaches will become worse with the development of hypertension. Wolff feels that the added blood pressure increases the expansion of the branches of the external carotid, producing the increased expansile pulsations and hence the migraine-like headache. Wolff, however, points out that the level of the blood pressure at any one time is not related to the headache.

Dr. Higgins has given us an excellent description of the histamine headache. Wolff is of the opinion that this headache is simply a peculiar form of the migraine headache. An interesting case report by Alford and Whitehouse, however, of a soldier with both the histamine-sensitivity headache and a duodenal ulcer tends to refute this. When this soldier would have a histamine headache it was found that his gastric-acid curve was quite high and similar to his gastric-acid curve when histamine was administered. Between bouts of histamine headache the soldier's gastric-acid curve was quite low.

I have enjoyed Dr. Higgins' paper very much and appreciate the opportunity to discuss it.

Bibliotheca Obstetrica

Clarke, Sir Charles Mansfield (1782-1857) Observations on those diseases of females which are attended by discharges. London: Longman, Hurst, Rees, Orme, and Brown, 1814. viii, 304 pp. 10 plates, 24.3 cm.

This is the only published work of the author. He describes an urethrocele as a thickening of the wall of the urethra and a dilatation of the blood vessels. The treatment consisted of scarification or the application of leeches. He introduced the term *carcinoma uteri.*

Sir Charles was at one time the leading practitioner of midwifery in London. He was educated at St. George's Hospital and the Hunterian School of Medicine. He was surgeon to Queen Charlotte's Lying-in Hospital. In 1830 he was appointed physician to Queen Adelaide, receiving a baronetcy in 1831. He was elected F.R.S. in 1825, and F.R.C.P. in 1836. He was admitted M.A. at Corpus Christi College, Cambridge in 1842 and became D.C.L. at Oxford in 1845.

PREGNANCY AND TUBERCULOSIS*

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The problem of pregnancy and tuberculosis has been and still remains one of the most controversial problems in medicine. For the most part, the available literature is a mass of confusion and the recorded statistics are unreliable because of the paucity of cases correctly studied. The viewpoints have varied from the teaching of Hippocrates who believed that "pregnancy is the best cure for consumption" to the opposite extreme: "if a virgin, no marriage; if married, no pregnancy; if pregnant, no confinement". In analyzing the voluminous literature on this subject, Jameson[1] in 1935 was unable to find a single report purporting to show the deleterious effect of pregnancy on pulmonary tuberculosis which was not open to criticism from the standpoint of incomplete data on the extent and type of lesion. He was impressed with the fact that many of the writers have not approached the problem with an open mind and have obviously been influenced by preconceived ideas based upon old precepts—admittedly a faulty attitude towards any scientific problem. The British Medical Association in 1936, in a special joint meeting of the internists, obstetricians and tuberculosis specialists, argued the subject concerning the effect of pregnancy on tuberculosis for a whole day and concluded that up to that time there were no studies available giving sufficient facts on a sufficient number of cases to justify an opinion[2]. Bridge[3] in May, 1947, stated, "In no branch of medicine is it possible to find so many diverse opinions, each one supported by charts, figures and percentages". Falls[4] in 1941 had this to say, "I am convinced that the gloomy picture that was painted in the textbooks of both medicine and obstetrics of a few decades ago, and the statistics that are still being quoted belong to an era in which both tuberculosis and obstetrics were badly mismanaged as compared with what we are prepared to do for these patients today. With the development of collapse therapy, adequate sanatorium management, local anesthesia and improved management of practically all the possible complications of pregnancy it would be strange indeed if we would have to accept the same viewpoint as our predecessors. Cooperative management based on a common understanding of the underlying pathology and therapeutic possibilities by both the internist and obstetrician is the solid foundation on which the intelligent management of these interesting cases should rest".

No attempt will be made to present a comprehensive review of the literature as excellent reviews can be found in several recent publications[1,5,6]. Johnson,[6] in 1948, reviewed 160 articles on the subject and presented a series of his own of 118 cases. He concluded that "therapeutic interruption of pregnancy should never be done except in extreme cases in which pregnancy without tuberculosis would be difficult, and in those in whom the other complications of pregnancy are serious". Fourteen of their 118 cases were worse after delivery but all fourteen were hopelessly sick with far advanced tuberculosis and had little, if any, chance for survival even if they had not been pregnant. Friedman and Garber[5] in another excellent summary stated that therapeutic abortion should rarely, if at all, be performed on patients with tuberculosis. Mariette[7] reported on two deaths which followed shortly after therapeutic abortions because of pulmonary tuberculosis and felt that aborting a tuberculous pregnant woman is more hazardous than allowing her to go to full term. McDowell[8] concluded from his observations that "therapeutic abortion is a dangerous and unwise procedure in patients with active disease". Williams[10] in his book on Obstetrics quotes the study of Bridgman and Norwood[11] who followed 134 cases for one year or longer and found that at the end of that time more deaths had occurred in those upon whom abortions had been induced than in those who were left alone.

From the Pollak Hospital for Chest Diseases and the Margaret Hague Maternity Hospital, Jersey City, N. J.
*Read before the annual meeting of the Medical Society of Virginia at Roanoke, October 8-11, 1950.

Schaefer and Law[9] reported on 231 full term pregnancies which were divided into two groups; those, who were seen between 1920 and 1931 when all patients were treated by bedrest alone, and those who were treated between 1932 and 1938 when active collapse measures were employed. In the former group the mortality was the same for the pregnant and non-pregnant groups (thirty-two per cent and thirty-three per cent). Improved and unimproved case-comparisons were also about the same (33 per cent and 36 per cent). In the latter group the mortality rate for the pregnant group was 17 per cent, whereas for the non-pregnant group it was 26 per cent. They felt that pregnancy has no deleterious effect on tuberculosis and that the type and extent of the lesion plus the ante-natal and post-natal care were the important factors in the outcome of each patient. Forssner[12], of Stockholm, compared the results obtained in three hundred and forty-one women who had been delivered with three hundred and ninety-six other women who had not been pregnant. At the end of two years, it was found that the mortality was essentially identical in each group. He therefore believed that intervention is never indicated, and when practiced probably does more harm than good. Larson, Mariette and Litzenberg[13] reported on eighty-five women with tuberculosis who became pregnant, and concluded that "pregnancy has not been demonstrated to affect the tuberculous process adversely in the patients when they are properly treated for their tuberculosis". A most interesting report by Lyman in 1943[2] merits special consideration. Lyman was "trained in the school that held that all pregnancies complicating pulmonary tuberculosis should be terminated if seen before the third month, and also that women with any appreciable amount of tuberculosis should not marry". He practiced that viewpoint for many years in his position as Medical Director of the Gaylord Farms Sanatorium. However, after reviewing his statistics, he came to the conclusion that a woman with inactive disease who has shown no tendency to relapse after one year of active life could, if she took proper care of her health, "have a baby and, in due time, another one".

During the routine observation of our cases of tuberculosis who had become pregnant, we were impressed with the favorable outcome of the pulmonary lesions in spite of the fact that the majority of our cases refused hospitalization and chose, rather, to be followed in the clinic. In an attempt to clarify this problem and without bias as we had no definite viewpoint, we reviewed our cases of tuberculosis who had become pregnant. A total of one hundred and ten patients were studied who had gone through one hundred and twenty-eight pregnancies (Figure I).

FIGURE I

	Patients	Pregnancies
Pleurisy with effusion	1	1
Minimal	19	23
Moderately advanced	35	41
Far advanced	12	14
Pneumothorax	27	29
Reexpanded Pneumothorax	14	18
Thoracoplasty	2	2
TOTAL	110	128

No attempt was made to give a long-term follow-up as we were interested in ascertaining to our satisfaction, at least, what influence, if any, the pregnancy exerted on the tuberculous lesion and what course the lesion took in the two or three month post-partum period. We do not feel that what might happen to a lesion two or three years after a pregnancy could possibly be blamed on that event.

FIGURE II

	No. Preg.	No. Change	Improved	Worse
Pleurisy with effusion	1	--	1	-
Productive (fibrous)				
Minimal	17	17	-	-
Moderately advanced	22	21	-	1
Exudative (active)				
Minimal	6	--	6	-
Moderately advanced	19	4	11	4
Far advanced	14	3	-	11
Pneumothorax	29	29	-	-
Reexpanded Pneumothorax	18	18	-	-
Thoracoplasty	2	2	-	-
TOTAL	128	94	18	16

PLEURISY WITH EFFUSION

There was one case of pleurisy with effusion which developed in a young colored female eight days prior to delivery. The fluid was positive on culture for acid-fast bacilli. Following an uneventful delivery she remained in the hospital for only two weeks. Following her release she was followed in the clinic and serial X-ray studies showed progressive and complete resolution of the pleuritic process.

Minimal Lesions

In this group there were a total of twenty-three pregnancies in nineteen women. Seventeen of the lesions were of a productive, stationary character and in no instance was there any change in the lesion noted either during pregnancy or in the post-partum period. Six patients had active disease which showed progressive resolution and fibrotic changes during the pregnancy and post-partum. Although all of the active cases were advised to be hospitalized, only one consented to hospitalization and the remainder were followed in the clinic. No case showed any progression of the lesion.

Moderately Advanced

There were forty-one pregnancies in this group of thirty-five women with moderately advanced disease. Twenty-two of the pregnancies were in women with stationary lesions and none were hospitalized. Their lesions had been stationary for periods ranging from two months (two cases) to seven years prior to delivery, the majority for eighteen to forty-eight months. Twenty-one of these showed no change in their lesions either during the pregnancy or post-partum period, and one patient, whose lesion had been stationary for ten months, showed a very slight increase in the lesion one month post-partum which cleared on rest at home and remained stationary on subsequent follow-up. Nineteen of the pregnancies were in women with active disease, three of whom had cavitations. One of these patients gave birth to twins. Only three of this group were hospitalized, the remainder refusing hospitalization and were followed in the clinic. The three hospitalized patients made excellent recovery on bedrest alone. Eleven patients, even though not hospitalized, also showed progressive healing of their lesions following delivery. Four patients showed slight increase in their lesions within three months after delivery and five additional cases showed some progression in subsequent follow-up studies. In the three cases with cavitation two of them refused hospitalization. One showed no change in the lesion nineteen months post-partum and one showed a slight increase in the cavity eighteen months after delivery. One patient who was hospitalized signed a release two months after her baby was born and returned home. She was not seen again until the birth of her second baby fourteen months later at which time her X-ray showed a residual productive infiltrate with no evidence of any cavitation and she felt well and was asymptomatic.

Far Advanced

In this group of fourteen pregnancies, six were in colored females with rapidly progressive caseous pneumonic lesions with bilateral cavitations. Three of the pregnancies were associated with no significant changes noted in their disease for as long as three years. The causes of the rapid decline in the others were terminal spontaneous pneumothorax (eighteen days post-partum), terminal hemoptysis (one day post-partum), exsanguinating vaginal hemorrhage (six days post-partum), broncho-pleural fistula (six weeks post-partum) and one patient died of complicating intestinal tuberculosis, her pulmonary lesion showing no change for seventeen months after delivery.

Pneumothorax

There were twenty-seven pneumothorax patients who had had an effective collapse at time of delivery. Two of these patients had a second child while still undergoing collapse therapy. Three of the patients had a maintenance oleothorax at the time of delivery; in two the mineral oil had been injected because of a tendency for the lung to reexpand and the third had had a replacement oleothorax because of an empyema. The duration of effective collapse ranged from three months to sixty months, most of the cases having had an effective collapse for twenty to thirty-six months. In no instance was there any change noted in the pulmonary lesion either during pregnancy or in the period after delivery. No patient experienced any discomfort because of their collapse during delivery. The collapse was continued in each case after delivery for variable periods of time.

Reexpanded Pneumothorax

In this group, there were fourteen patients, four of whom had two pregnancies, making a total of eighteen deliveries. The duration of effective collapse ranged from twelve months to sixty months with a majority having their collapse for three years. The interval between complete reexpansion and delivery ranged from one month to fifty-seven months, with the majority having their babies twenty-four to thirty-six months after having been reexpanded. In no cases was there any alteration noted in the residual productive infiltrate seen on the X-rays after expansion. All of the cases had cavitation with a positive

sputum prior to the induction of pneumothorax. One of the patients had had bilateral reexpanded lungs for thirty-six months prior to delivery and experienced no difficulty during labor and delivery.

THORACOPLASTY

There were two patients in this category. Both had had two-stage operations four years and six years prior to delivery respectively. In neither case was there noted any change in the collapsed lung.

It may be of interest to add here that in the entire group there were six patients who had had a permanent phrenicectomy. None of these experienced any difficulty during their pregnancy or during delivery.

DISCUSSION

In a brief analysis of our cases, we are impressed with the following facts: All of the cases with productive lesions, even though none were hospitalized after discharge from the maternity hospital, did well with the exception of one case whose lesions had shown no change for only ten months prior to delivery and she, after being placed on bedrest, showed prompt resolution of the slight increase of her disease. In the group of twenty-five active cases of minimal and moderately advanced disease, four showed some progression in the post-partum period, none of whom had consented to hospitalization. All returned to their homes to care for their children and household duties and, in spite of this, all four cases showed only a slight increase in the extent of the existing lesions. It is needless to say that any case of active tuberculosis when so diagnosed would certainly be urged to go on a strict bedrest regime and would be told that the prognosis would be poor if such treatment were not followed. It is, therefore, not surprising that several of these cases showed progression. The same, I am sure, would have happened, in any group of active male cases, where pregnancy would not have been a factor, should they have continued with their daily occupations. All of the cases undergoing collapse therapy and those whose lungs had reexpanded following a period of pneumothorax treatment, did well. Our data does not substantiate the frequently quoted statement that pregnancy aggravates a tuberculous lesion, for in no case did we see any increase of the lesion during a pregnancy. Nor do we feel that a well conducted delivery will cause an exacerbation of a tuberculous lesion. However, we do feel where there is an increase in the extent of the lesion in the period following delivery that this is the result of the greatly increased activities assumed by the patient. To be sure, where a patient with active disease refused hospitalization we always urge that they adopt and follow a bedrest regime at home but, from personal knowledge, we know that this was not done by all of our patients. All of them came from the lower-income levels and were forced, by reason of their poor economic status, to personally care for their homes and families and, in almost fifty per cent of the cases, there were other children at home that had to be cared for also.

As to what advice we would give a woman with tuberculosis regarding her becoming pregnant, we feel quite clear in the following statements. If she is receiving pneumothorax, we would advise her becoming pregnant after an interval of two years of effective collapse. That would allow for control of the lesion during the pregnancy and for approximately a year or more after delivery. If the lung has reexpanded or if it is an arrested case of tuberculosis, we would recommend a period of one to two years under ordinary activity to observe the lesions before permitting pregnancy. We would not of course, advocate pregnancy in a woman with an active lesion, even though we strongly are of the opinion that activity itself in a tuberculous lesion is not sufficient reason to interrupt a pregnancy already started[3]. That individual, because of the type of lesion which she has, would receive the same advice for her tuberculosis as would be given her as if she were not pregnant, such as bed rest, collapse therapy, etc., as indicated. On a number of occasions, we have seen patients for the first time in the course of a pregnancy with cavity lesions which we have collapsed satisfactorily during the pregnancy and have gotten an effective collapse by the time of their delivery. The use of the several therapeutic measures at our command, both in the form of collapse measures plus the more recent antibiotics, makes it even more possible to effectively treat our pregnant tuberculous women. Certainly, we do not regard therapeutic abortion as a substitute for effective anti-tuberculosis therapy.

It has been our observation that on occasions the physician's desire to abort may be influenced by the patient's desires. We agree with Bridge[3] when he states that "whether a child is wanted or not is hardly the immediate concern of the physician".

Conclusion

In a review of one hundred and twenty-eight pregnancies occurring in women with tuberculosis, we can find no evidence to feel that pregnancy or delivery exerts a deleterious effect on the tuberculous lesion. No patient in our series, excluding those with hopeless, far-advanced disease, who followed a bed-rest regime following delivery, showed any increase in their disease. Those patients with active disease who refused hospitalization after delivery and return to their homes to assume the cares and responsibilities of their home and children can be expected to show progressive changes, but this progression, we feel, is the result of the nature of their disease process with failure to take the prescribed treatment. Where a patient who is pregnant is seen with tuberculosis, all efforts should be directed towards the treatment of the pulmonary lesion and the pregnancy should not be interfered with. The use of abortions in pregnancy cannot be considered therapeutic, and certainly is no substitute for well-established therapy directed to their pulmonary lesion.

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Discussion

Dr. C. Lydon Harrell, Norfolk: I have listened to Dr. Kruger's paper with a great deal of interest and pleasure. He reported an interesting series of cases with excellent results, but he did not follow his cases long enough for final results. Like many others who write on the subject of tuberculosis in pregnancy, he discussed one side very thoroughly, but leaves the other side to the imagination.

One can readily see from Dr. Kruger's discussion that he is very much opposed to a therapeutic abortion under any circumstance. If one would take the trouble to search the literature he would find just as many students of tuberculosis in favor of therapeutic abortion in certain types of cases as opposed. The main trouble is that the subject has never been studied and followed sufficiently to reach a proper conclusion. The obstetrician is primarily interested in delivering a normal healthy baby and leave the mother's perineum in as good shape as possible. He sees the mother once after she leaves the hospital and reports good results. In all probability he is correct, as most mothers, even though they do have tuberculosis, do well while carrying the baby. He does not mention nor does he know what happens three or six months later—whether the mother breaks down or the child develops a tuberculous meningitis.

The internist probably never sees the case until it is too late to do anything except to advise the mother how to take care of herself while carrying the child and immediately following delivery; consequently, many go unrecognized until it is too late.

Every pregnant woman should have an x-ray picture made of her chest at the time of her first prenatal examination if any suspicious lesions are noticed, and she should be advised to consult an internist at once and follow his advice. The obstetrician and internist should work together. The cases should be followed for at least five years. One should know what happens to the mother, the child and the other children in the home. It is a well known fact that child rearing is harder on the mother than child bearing. By a cooperative follow-up study much information could be obtained which would be of great value in helping one to determine the line of treatment in other cases.

Dr. Kruger states that a number of his advanced open cases were permitted to return to their homes after leaving the lying-in hospital to care for their babies and other children in the home. This is contrary to all public health teaching and tuberculosis control program.

The question arises: If you had a pregnant woman with tuberculosis, what would you do? How would you decide whether to carry her to term or to abort her? First of all, the mother has the final say; without her consent nothing can be done. Assuming the mother is

willing to take her physician's advise, one should approach the subject from three angles:

First, scientific or medical;
Second, from the standpoint of Public Health;
Third, socio-economical.

There are certain types of cases that many physicians will agree should be aborted if recognized before the fourth month of pregnancy:

1. The far advanced active case.
2. Those with cavity and in the exudative stage.
3. Hemorrhage cases.
4. Laryngeal or kidney complications.
5. Any case with a positive sputum.

On the other hand, minimal and moderately advanced cases may be taken safely through pregnancy if in competent hands, provided they are willing and financially able to stay on the cure, preferably in a sanatorium, until the time of delivery. After the delivery, the child should be taken from the mother and the mother returned to the sanatorium and remain until she is considered safe to live at home with children.

Certain cases with an open cavity may go through pregnancy provided the lung can be adequately collapsed and she stay on the cure. Pneumothorax once started on a pregnant woman should be continued at least two years after delivery.

In considering these cases, one should always think of the economic situation. It is not fair to the family nor to the community to tell a woman with tuberculosis that she can go through her pregnancy when you know she is not able to pay her way at a sanatorium or to employ help at home. She becomes a menace and a care on the community during the pregnancy and a double care after delivery.

As a public health measure, we should try to isolate every open case of tuberculosis and endeavor to have every child born and reared in a healthy environment.

I wish to thank Dr. Kruger for his excellent paper.

DR. DEAN B. COLE, Richmond: I had not expected to discuss this paper, but I think Dr. Kruger is over-optimistic. Certainly our results have been nothing like so good.

We have a number of patients who have gone through pregnancy following treatment for tuberculosis without relapse or other complications. Some of these were pneumothorax patients in whom collapse was continued during pregnancy and for a time following delivery. For the most part, these patients have gotten along well.

On the other hand, we have seen a number of tuberculous women who became pregnant against advice and who relapsed during pregnancy or shortly after delivery. We frequently see women whose first breakdown with tuberculosis was either during pregnancy or shortly after delivery and I am convinced pregnancy is not good for tuberculosis and may be quite harmful.

I think this problem, like so many others, must be individualized and handled accordingly.

DR. KRUGER, closing the discussion: I knew I was in for a lot of arguments if I presented my side of the story.

To go back at Dr. Cole first, no mention was made in the paper that I can recall where we say that pregnancy is good for tuberculosis. That has been stated, as a matter of fact, by some good observers. They felt that the tuberculosis seemed to do better during pregnancy. But that statement was never made in the paper.

Insofar as the statement regarding the occurrence of exacerbations of tuberculous lesions during pregnancy, I am sure that all men treating tuberculosis have occasionally seen exacerbations of lesions in individuals who were not pregnant and who were receiving excellent sanatorium therapy.

This subject is one that deserves further investigation and study. I am grateful for being allowed to present the subject to you and, even if it has only stimulated some of you to give the subject more thought and consideration, I will feel amply rewarded for my efforts.

Separate Babies from TB Mothers As Precaution Against Disease.

Babies born of tuberculous mothers who are removed from contact with the mother immediately after birth do not contract the disease, according to three pediatricians. Drs. Bret Ratner of New York, Alexander E. Rostler of Fall River, Mass., and Pierre S. Salgado of Port-Au-Prince, Haiti, writing in the *American Journal of Diseases of Children,* added that with proper diet these infants will grow and develop the same as infants born of healthy mothers.

According to the article, the incidence of prematurity in offspring of tuberculous mothers is exceedingly high, ranging from 23 to 64 per cent, depending on the severity of the disease in the mother.

TREATMENT OF EPILEPSY WITH MESANTOIN* OR HYDANTAL**

A Study Of 35 Consecutive Patients With Grand Mal Seizures Treated At The Virginia State Penitentiary And In Private Practice With A Follow-Up Of 1 to 2 Years

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In approaching the complex difficulties of ferreting out specific causes responsible for the appearance of epilepsy and evaluation of therapeutic procedures, we must in all humbleness acknowledge our inadequacies individually. It is through the pooling of collective effort and study carried forward tenaciously but conservatively that we are able to achieve our goal. This principle is paramount in order to successfully surmount the obstacles of treatment.

There is a considerable aura of uncertainty prevailing regarding the determining of cause in epileptic seizures. The Jacksonian conception that a "discharging lesion" is the cause of epilepsy has led many responsible persons, including James Purdon Martin,[19] to believe that this provides insight into the explanation of many neurologic manifestations of a paroxysmal origin. Jackson states firmly that, "A convulsion is but a symptom," and implies that "there is an occasional, and excessive, and a disorderly discharge of nerve tissue on muscles." In accordance with this, we note that the most violent discharges take place at the cortical level. It is interesting to find that fibrillation in amyotrophic lateral sclerosis is apparently indicated as arising in the degenerating anterior horn cells.

In turning our attention to the thalamic syndrome, we find that Head and Holmes[15] in 1911 explained it as a resultant effect of released thalamic function precipitated by damage to higher centers normally controlling the thalamus. Classical evidence of the thalamic syndrome's presence is exemplified by explosive, hyper-acute and, at times, immediate pain in one side of the body.

The likelihood that the damaged thalamus may be a discharging lesion itself is conceded, as may also be the case in chorea, athetosis and spasmodic torticollis.

Nils Antoni[2] places emphasis on the advisability of broadening epileptic definition to encompass conditions not of necessity marked by "attacks of loss of consciousness with convulsions." We do not find tonic and clonic movements present in many epileptic forms and the degree of lost consciousness during seizures may vary greatly. "In addition to the purely visceral phenomena of grand mal, such as bladder contraction and pupil dilatation, there are seizures whose clinical characteristics are entirely visceral, called vasovagal seizures by Gower."[11] In studying the relation of auras to seizures we find that "auras are not necessarily sensory but may be characterized by motor phenomena, such as running a short distance, intellectual phenomena such as dreamy states, or emotional phenomena." Antoni[2] further concludes in reporting on uncinate fits that the only epileptic phenomena which definitely indicate the presence of abnormal function of the uncinate gyrus of the anteromodial part of the temporal lobe are olfactory and gustatory auras. The field of research regarding precipitating causes of these abnormal discharges has yet to be explored.

In reviewing the history of the development of drugs and treatment designed to combat epilepsy, it is worthy of note that there are three significant categories and periods. The first period began about 1853 with the inauguration of drug therapy in the category of bromides. Encouragement was gained, for this medication did indeed reduce the incidence of epileptic attacks, but regrettably with its use the *bete noire* of unwelcome side effects reared its ugly head in the form of bromism, a condition which, of necessity, should not be minimized.

The second period, which saw the appearance and quick consolidation of phenobarbital as a therapeutic agent offering bright hope to the unfortunate victims of epilepsy, began in 1912. We take occasion to note at this point that the merit and efficacy of this drug overshadowed bromides in the opinion of no inconsiderable number of workers. And in 1937 came the third period which marked the initiation of the drug diphenylhydantoin sodium (Dilantin), an

achievement of appreciable magnitude, and for whose introduction Merritt and Putnam[21] should be duly commended.

While by no means being a perfect anti-convulsant drug, it is significant to note from a collective analysis of authoritative papers published, that it was far superior to any previous medicants in reducing epileptic seizures. For other studies on the use of this drug, one is referred to the reports of Merritt,[21] and Putnam,[22] Finkleman and Arieff,[10] and Lennox.[17]

Through further investigation of diphenylhydantoin sodium's potentialities, it was noted at times that undesirable side effects appeared with its use, such as gastric disturbance, interruption of muscular coor-

"SEIZURES"

Date: _____

Number: _____ Name: _____ Race: _____

When did you have your first seizure? _____

Can you remember any of the happenings before a seizure? _____

Did you bite your tongue? _____ Did you wet or mess up your bed? _____

How old were you when you had your first attack? _____

Frequency of attacks? _____

How long do the seizures usually last? _____

How long have you been taking treatment? _____

Type of treatment: Mesantoin: _____ Dilantin sodium: _____

Phenobarbital: _____ Other: _____ Dosage: _____

Results of treatment? _____

What are your feelings following an attack? _____

Do any members of your immediate family have epilepsy? _____

Do you know of any of your relatives who are afflicted with epilepsy? _____

Have you ever had a serious head injury? _____

If so, were you unconscious and how long unconscious? _____

Have you ever had any other serious injury? _____

Have you ever had a serious illness? _____

Do you have frequent headaches? _____ Dizziness? _____ Blind staggers? _____

Pressure sensations in head? _____ Fainting spells? _____

Loss of orientation and knowledge of whereabouts? _____

Use of alcohol: None: _____ Moderate: _____ Excessive: _____ Sprees, how often? _____

Do you use dope or narcotics in any form? _____

Do you get angry or depressed easily? _____

Type of epilepsy: Grand Mal: _____ Petit Mal: _____ Other: _____

Recession of attacks: Complete: _____ Mild: _____ Moderate: _____ None: _____

General physical condition: Good: _____ Fair: _____ Poor: _____

Do you feel that the attacks are milder or worse since treatment with Mesantoin? _____

_____

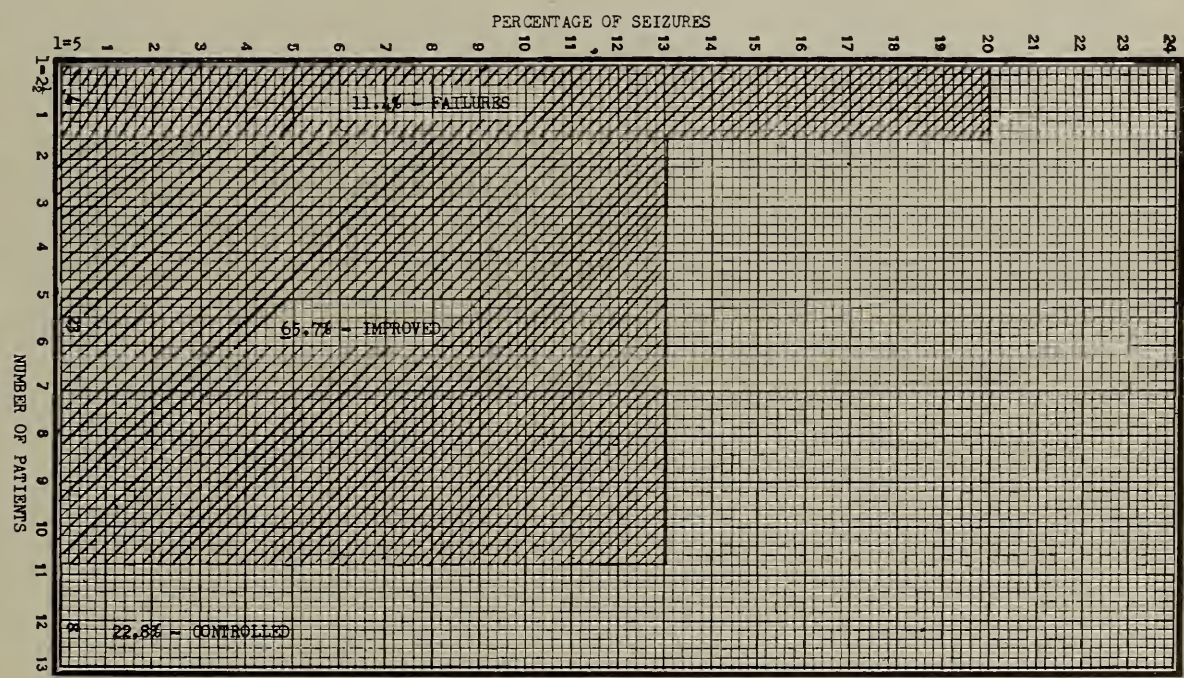
Do you feel that there is improvement in your condition since treatment here? _____

dination, dizziness, marked gum hyperplasia, reduction of weight, heightened irritability and restlessness. In many cases,[8, 12, 23, 24] the combining of phenobarbital with diphenylhydantoin sodium was found remarkably more efficient than the independent use of either drug in reducing seizures and, more gratifying, the deleterious effects such as mentioned above were frequently diminished.

Of no negligible importance is the proving of 3 methyl-5, 5-phenylethylhydantoin (whose trade name is "Mesantoin") combined with phenobarbital,* which are the findings of Loscalzo,[18] who indicated that the use of this drug reflected a 60% reduction in grand mal seizures among 67 cooperative patients, the majority of whom had epilepsy of undetermined causes. Among his conclusions drawn from a 3 year study we find that the toxicity of Mesantoin is inordinately low, only one patient having been unable to take the drug because of rash. Despite the encouraging results in reduction of grand mal seizures, however, it must be noted that this medicant did not improve patients suffering from petit mal and psychomotor disturbances.

It is well worth observing that Clein[6] and Kozol[16] also indicate in their findings regarding the use and efficacy of Mesantoin that a small amount of phenobarbital increases the anticonvulsant action of same. (A combination of 3-methyl-5, 5-phenylethylhydantoin and phenobarbital is now distributed under the name Hydantal). It is interesting to note that Kozol,[16] while recording also that 60% of the patients on this drug therapy were greatly improved, he differed from Loscalzo,[18] in that his opinion of psychomotor and focal attacks were also included in improvement of grand mal reduction. The papers published by other workers[5, 7, 9, 13, 25,] afford us with a balanced number of studies from which to draw conclusions on the relative efficacy of Hydantal, diphenylhydantoin sodium, and Mesantoin alone in the treatment of epileptic seizures.

It is appropriate to note that Loscalzo,[18] in listing side effects, encountered gingival hypertrophy in 6% of patients on Hydantal therapy, 4½% suffering skin rash and 15% experiencing slight drowsiness. This rash was intensely pruritic and Kozol,[16] in his first studies, indicated a 10% incidence in his patients until he initiated small doses at the start, gradually increasing them, whereas, it was then found that virtually no rashes resultantly appeared. The only significant clinical finding in the cases of rash studied by Loscalzo[18] was a moderate leukocytosis.



However, warning must be given that dangerous complications may ensue in some patients taking this type of drug, as indicated by Bloom, Lynch and Brick,[4] regarding Mesantoin poisoning with aplastic anemia. The report on this case revealed that a white woman of 34 years, suffering grand mal seizures, developed severe aplastic anemia with hyperplastic bone marrow as a result of sensitivity to Mesantoin. The patient recovered, however, after

Case	Initials	Age	Sex	Frequency of Seizures	Onset Age	Duration Years	Type of Seizures
1	J. M. W.	25	M	2 or 3 times monthly	13	12	Grand Mal
2	A. F. L.	32	M	once every 8 months	19	11	" "
3	H. C. K.	30	M	3 times daily	17	13	" "
4	W. C.	37	M	once every 6 weeks	15	15	" "
5	M. H.	26	M	once every 2 weeks	20	6	" "
6	L. M.	26	M	once every 2 weeks	22	4	" "
7	H. D.	19	M	once every month	18	1	" "
8	H. D.	40	M	once every 2 weeks	22	18	" "
9	H. L.	27	M	once a year	18	9	" "
10	L. K.	18	M	once every 10 days	14	4	" "
11	G. B.	26	M	once monthly	25	1	" "
12	F. S.	27	M	once weekly	25	2	" "
13	G. D.	21	M	3 times yearly	17	4	" "
14	J. J.	25	M	1 or 2 times monthly	19	6	" "
15	J. H.	19	M	once every 2 months	19	11 mo.	" "
16	T. S.	48	M	3 or 4 times monthly	20	28	" "
17	J. E. B.	26	M	once weekly	23	3	" "
18	R. W.	41	M	two monthly	6	35	" "
19	I. H.	19	M	two monthly	19	10 mo.	" "
20	E. J. B.	26	M	once monthly	12	14	" "
21	L. P.	23	M	2 or 3 times weekly	19	4	" "
22	W. C. S.	43	M	1 each day or night	39	4	Hysteria
23	J. W.	26	M	2 or 3 times monthly	8	18	Grand Mal
24	M. L. A.	35	M	3 or 4 times yearly	10	25	" "
25	S. J.	42	M	1 or 2 times weekly	42	11 mo.	" "
26	W. P.	27	M	irregular intervals	9	18	" "
27	C. G.	34	F. M.	irregular intervals	11	23	" "
28	A. C.	24	M	irregular intervals	18	6	" "
29	E. C.	23	M	two weekly	13	10	" "
30	H. H.	23	M	3 times weekly	21	2	" "
31	W. Y.	24	M	one weekly	14	10	" "
32	W. C.	37	M	once every 6 weeks	23	14	" "
33	A. B.	24	F. M.	once monthly	13	11	" "
34	E. L.	21	F. M.	weekly intervals	13	8	" "
35	M. P.	19	M	two weekly	13	6	" "

Diagnosis	Previous Medication	Results	Present Medication	Results	Remarks
Psychomotor	Unknown		Hydantal	Improved	
Idiopathic	Unknown		Hydantal	Improved	
Focal	Unknown		Mesantoin	Improved	
Focal	Phenobarbital	Moderate Improvement	Mesantoin	Controlled	
Focal	Dilantin	Moderate Improvement	Mesantoin	Controlled	
Idiopathic	Phenobarbital	No marked Improvement	Mesantoin	Controlled	
Focal	Phenobarbital	No marked Improvement	Mesantoin	Markedly Improved	
Focal	Phenobarbital	No marked Improvement	Mesantoin	Controlled	There is epilepsy in the family
Focal	Dilantin	Some Improvement	Mesantoin	Controlled	There is epilepsy in the family
Idiopathic	Unknown	Some Improvement	Mesantoin	Controlled	Mother has epilepsy
Idiopathic	None		Mesantoin	Controlled	
Focal	Unknown	Some Improvement	Mesantoin	Improved	
Focal	Phenobarbital	No marked Improvement	Hydantal	Improved	Mother and G. M. had epilepsy
Focal	Phenobarbital	No marked Improvement	Mesantoin	Improved	
Idiopathic	Unknown		Mesantoin	Improved	
Focal	Dilantin	No marked Improvement	Mesantoin	Markedly Improved	Brother has epilepsy
Idiopathic	None		Hydantal	Markedly Improved	
Idiopathic	Dilantin and Phenobarbital	Satisfactory	Hydantal	Improved	
Idiopathic	Unknown		Hydantal	Controlled	
Focal	Dilantin and Phenobarbital	Satisfactory	Hydantal	Improved	Mother died of epilepsy
Focal	Phenobarbital	Slight Improvement	Mesantoin	Improved	
Hysterical Epilepsy	Unknown		Mesantoin & Hydantal	Failure	
Focal	Dilantin and Phenobarbital	Some Improvement	Mesantoin	Improved	
Focal	Many Rx Incl. Mesantoin	Poor	Hydantal	Failure	Mother and Sister have epilepsy
Idiopathic	Mesantoin Dil. & Pheno.	Improved	Mesantoin	Improved	
Idiopathic	Phenobarbital	Improved	Mesantoin	Improved	Father had epilepsy
Idiopathic	Various Rx	Little Improvement	Mesantoin	Failure	Aplastic anemia
Psychomotor	Unknown		Mesantoin	Improved	
Idiopathic	Unknown		Mesantoin	Markedly Improved	Mother was epileptic
Focal	Dilantin Phenobarbital	Some Improvement	Mesantoin	Improved	
Focal	Phenobarbital	Some Improvement	Mesantoin & Hydantal	Failure	The sequelae became milder
Focal	None		Hydantal	Markedly Improved	
Idiopathic	Dilantin	Failure	Mesantoin & Hydantal	Improved	
Idiopathic	Phenobarbital	Some Improvement	Mesantoin	Improved	
Psychomotor	Dilantin	Some Improvement	Mesantoin	Improved	Cousin is epileptic; patient is mentally deficient

numerous transfusions and the institution of a regimen of penicillin, streptomycin and various hematinics. Monthly hematologic studies should, therefore, be made when indicated in order to recognize and take prompt steps to control and circumvent the above mentioned condition.

It is interesting to study and compare the respective conclusions of investigators in the field of epilepsy therapy in various forms with Dilantin, phenobarbital, Mesantoin and Hydantal. Von Hagen,[25] using Hydantal in 16 cases of epilepsy, indicated that in agreement with other workers, it was most effective in controlling grand mal seizures, the toxic effects being in his opinion negligible. It is surprising to note that certain distinct differences in results are gained by observers using Mesantoin and phenobarbital. Otto,[13] agreeing with studies by Kozol,[16] states that Mesantoin is of "great benefit in the treatment of psychomotor epilepsy," while Loscalzo,[18] reports adversely that petit mal and psychomotor epilepsy were not improved with Mesantoin and phenobarbital. It may be of importance, however, to note that Otto[13] specialized in the treatment of psychomotor seizures, whereas 45 of the 67 patients of Loscalzo[18] suffered from grand mal, the remaining 22 patients being in the categories of psychomotor (12), petit mal (5), focal convulsions (3), myoclonic (1) and Jacksonian (1).

Fetterman and Friedman, in collaboration with Weil and Victoroff,[9] in their 1947 report regarding the treatment of 50 patients for one year with Mesantoin, among whom the majority were diagnosed as idiopathic epileptics, arrived at the following conclusions: That Mesantoin, like Dilantin, is valuable for grand mal and Jacksonian attacks, and not for petit mal; that, though effective alone, its major role is seen as being a supplement to Dilantin sodium; that "Mesantoin has proved more effective than phenobarbital alone and compares quite favorably with Dilantin sodium. Even if its anti-convulsant properties may be less than those of Dilantin, its side actions are milder and larger doses can be safely tolerated."

The findings of the writer in a study of 35 consecutive cases treated, during a follow-up of 1 to 2 years in private practice and at the Virginia State Penitentiary, bear out the conclusions arrived at by the above mentioned workers in the field of epilepsy that Mesantoin is a drug progressively acquiring a reputation for dependability and relative safety from toxicity, in controlling grand mal epilepsy.

At the outset it must be indicated that the above study was undertaken after a complication in therapy with Mesantoin had taken place,[4] in spite of good results accomplished by other workers. As is expected, prison facilities are usually limited, rendering it difficult to carry out a thorough scientific project in epilepsy. We do not have an electroencephalograph or a laboratory personnel with high standards of training as found in various hospitals, since all our technicians are inmates. This does not, however, detract from the standard conception that a drug's value is considerably enhanced if it can be administered without a great deal of laboratory procedures. Unless indicated, routine blood counts were not taken, electroencephalographic recordings were eliminated, and the symptomatology presented is entirely subjective in nature. Though one is aware of the limitations of this paper, the lack of complications noted during a follow-up of 1 to 2 years among the prison patients served to stimulate the reporting of the cases mentioned below.

Before deciding on anti-convulsive therapy the questionnaire entitled "seizures" was completed. Mesantoin in an average daily dose of 3 grains or Hydantal in similar doses were given. This treatment was limited to grand mal seizures evidenced in idiopathic, focal, psychomotor and hysterical epilepsy. These diagnoses were made mostly on the basis of the history presented and some error in same is therefore anticipated.

SUMMARY, CONCLUSION

I. 35 Patients were treated with Mesantoin or Hydantal and studied during a period of from 1 to 2 years. These averaged 98 seizures per month prior to the above therapy.

II. Of this group 17 presented symptoms of focal epilepsy, 14 of idiopathic, 3 of psychomotor and 1 of hysterical epilepsy.

III. The symptoms of 8 patients (22.8%), completely controlled by this drug, occurred equally in the focal and idiopathic types.

IV. After treatment with Mesantoin and Hydantal 22 patients showed a reduction in seizures by 31.6%.

V. The patients whose symptoms were not improved by this drug stated that sequelae of seizures were much milder.

VI. One patient developed aplastic anemia but recovered.

VII. No toxic reactions were noted among the 31 prisoner patients treated.

Mesantoin and Hydantal, though not necessarily superior, are drugs which have demonstrated a safe efficacy in many respects in the treatment of epileptic patients. Their toxicity among the Penitentiary patients was not observed.

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*Mesantoin and **Hydantal were generously supplied by the Sandoz Chemical Works, Inc., N. Y., for the purpose of this study.

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VASOPRESSOR DRUGS IN SPINAL ANESTHESIA

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A study of some of the vasopressor drugs currently available for spinal anesthesia was undertaken in order to make a comparison of their effectiveness. Significant decrease in blood pressure may be expected during spinal anesthesia when no vasopressor drug is used, and consequently employment of such drugs obviates the difficulties of hypotension which deter use of spinal anesthesia.[2]

A number of drugs may be used to sustain blood pressure during anesthesia, but ephedrine is probably the one most commonly used. Ephedrine was employed in our study, as well as methedrine† (desoxy-ephedrine) and in a few cases oenethyl‡ (menthyl-amino-heptane).

Method—Spinal anesthesia was administered to patients selected as to applicability of this type of anesthesia to the patient and the operative procedure. In 124 instances the continuous spinal technique was used, in 148 instances a single injection of the anesthetic drug was administered, and all anesthetics were given by medical anesthetists.

The drugs used for spinal anesthesia were procaine, pontocaine, a mixture of procaine and pontocaine or pontocaine and 10 per cent dextrose. The dosage of the drugs was varied to suit the type of operative procedure but was kept within accepted safe limits.

In all except the most minor cases, administration of intravenous fluid was started immediately after the anesthetic in order to sustain blood pressure and to allow for rapid administration of subsequent doses of the vasopressor drug if necessary, as well as transfusion when indicated. All the patients in our study were given sedatives and either atropine or scopolamine preoperatively. During operation adequate sedation was maintained by intravenous administration of nembutal or morphine and scopolamine or small amounts of sodium pentothal.

Each vasopressor drug was given to consecutive cases or to every other case in most instances, and there was no selection of special patients on whom to use any one drug. The drugs were administered at the time of spinal puncture, and therefore almost simultaneously with onset of anesthesia, by the single injection technique, and about ten minutes before onset of anesthesia by the continuous spinal technique. Ephedrine was given in a dose of 25 to 50 mg., methedrine in a 10 to 20 mg. dose, and oenethyl in a 50 or 75 mg. dose.

Blood pressure was determined by auscultation over the brachial artery before administration of the vasopressor drug at onset of anesthesia, and at five-minute intervals during the operative procedure the estimations of blood pressure, pulse rate and respiration were recorded.

TABLE 1

Operation	*Number of Cases*
Amputation of leg	17
Amputation of penis	1
Amputation of prolapsed rectum	1
Aneurysmorrhaphy	2
Appendectomy	22
Cesarean section	57
Cystotomy, suprapubic	4
Debridement of ulcer	3
Dilatation and curettage	1
Dilatation and curettage and postperineorrhaphy	1
Epididymectomy	1
Evacuation of hematoma	2
Excision of anal fistula	1
Exploration of bile ducts	1
Fusion, spinal	2
Gastrectomy	1
Graft, bone	2
Graft, skin	1
Hemorrhoidectomy	14
Hernioplasty	19
Hysterectomy	19
Hysterectomy, vaginal, and anteroposterior repair	2
Hysterotomy and bilateral tubal ligation	2
Incision and drainage	1
Laparotomy, exploratory	11
Ligation of common iliac artery	1
Ligation of vein	2

*Removed to St. Thomas Hospital, Nashville, Tenn.
**From Department of Anesthesia, Medical College of Virginia, Hospital Division, Richmond, Va.
†Supplied through courtesy of Burroughs Wellcome & Co., Tuckahoe, N. Y.
‡Supplied through courtesy of Bilhuber-Knoll Corp., Orange, N. J.

Nephrectomy	3
Oöphorectomy and salpingectomy	2
Osteotomy	1
Prostatectomy	9
Removal of cervical stump, La Force operation, and perineorrhaphy	1
Removal of ruptured intervertebral disc	3
Repair of jejunal loop	1
Resection, abdominoperineal	5
Resection of colon	10
Resection of diverticulum of duodenum	1
Resection of pancreas	1
Resection, transurethral	5
Salpingectomy, bilateral, partial	7
Salpingoöphorectomy, anteroposterior repair and appendectomy	20
Spermatocelectomy	2
Sympathectomy	9
Thrombectomy and bilateral sympathectomy	1
Total	272

Results—In determining the value of the various vasopressor drugs that were studied, it was decided to regard as significant a decrease in blood pressure of 25 per cent from the initial level. Table 2 lists the number of such cases with each vasopressor and also the percentage of cases receiving an additional dose of the drug.

With methedrine a fall in blood pressure of 25 per cent occurred in 14 cases (12.2 per cent), in 10 (8.7 per cent) of which it was necessary to administer additional vasopressor. When ephedrine was used, 27 cases (25.4 per cent) exhibited a comparable drop in blood pressure, and 19 (17.9 per cent) received an additional dose of the drug. In the small number of cases in which oenethyl was used, the designated drop in blood pressure occurred in 4 (18.1 per cent), with the same number, 4 (18.1 per cent), requiring an additional dose.

Discussion

Factors influencing decrease of blood pressure under spinal anesthesia are initial level of blood pressure, level of spinal anesthesia, type of surgery, length of operation, and age and general condition of the patient. The anesthetic drug may also be a factor, but in this study no estimation was made of the effect of the drugs in question. However, the various operative procedures as well as variations in physical status of the patients were quite uniform in each of the groups. Spinal anesthesia was not administered to patients whose condition did not warrant its use.

The fact that there were no alarming falls in blood pressure in these cases indicates that all the vasopressor drugs that were used had considerable effectiveness. Of the three drugs studied in our series of cases, methedrine was the most effective, which corroborates previous reports.[2,7]

In 30 of our cases use of a vasopressor drug was not considered necessary because the level of anesthesia was kept low, although later its administration was deemed advisable in 20 per cent of this number.

The pharmacology of the drugs differs somewhat, indicating that one drug might be more applicable in one patient than in another.

Use of ephedrine produces a rise in blood pressure largely by increasing cardiac output because of stimulation of the myocardium.[5] It also causes arteriolar constriction, and the stimulatory effects of ephedrine on the central nervous system are well known. Therefore, employment of this drug for patients in whom myocardial strain is already manifest might be open to question and should certainly be done with circumspection.

The rise in blood pressure following administration of oenethyl is largely due to arteriolar constriction, although some stimulation of the myocardium does occur because of stimulation of the sympathetic nervous system.[4] Experimental use of oenethyl has demonstrated that it is much less likely to cause dis-

Table 2

Vasopressor Drug	Number of Cases	Cases with 25% Fall in Blood Pressure		Cases Given Additional Vasopressor Drug	
		Number	Per Cent	Number	Per Cent
Methedrine	114	14	12.2	10	8.7
Ephedrine	106	27	25.4	19	17.9
Oenethyl	22	4	18.1	4	18.1
None	30	6	20.0	6	20.0

turbance of cardiac automaticity than is either adrenalin or ephedrine,[3] which fact may be of importance when it is necessary to supplement the spinal anesthetic with a general anesthetic, especially cyclopropane.

A similar lack of disturbance of cardiac rhythm by methedrine has been reported.[6] Methedrine obtains its circulatory effect chiefly by peripheral vasoconstriction, but large doses act directly on the myocardium.[2] Originally methedrine was used to stimulate the central nervous system, and Dodd and Prescott, who in 1943 were the first to suggest its use as a peripheral vasoconstrictor, observed that its duration of action was longer than that of other vasopressor drugs.[1]

CONCLUSIONS

1. Use of vasopressor drugs is of considerable value in sustaining blood pressure during spinal anesthesia.

2. Of the three drugs studied in our series of 272 cases, methedrine was the most effective.

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Hepatitis is Occupational Hazard.

A liver infection called hepatitis has proved to be a definite hazard to medical personnel working with blood and blood derivatives, two Memphis physicians write in the March 31 *Journal of the American Medical Association.* Drs. Merlin L. Trumbull and D. J. Greiner, said the disease can be transmitted by minute quantities of infected blood or serum introduced into the system through a small opening or scratch in the skin.

The doctors believe hepatitis among medical personnel may increase. They attribute this possible increase to the expanding use of blood and its derivatives. They reported that in a survey of occupational diseases among the medical personnel in two of the hospitals mentioned in the report, hepatitis was the most common during this three-year period.

According to the article, the best protection against this occupational form of hepatitis at present is strict adherence to the rules governing the handling of any diseased or infected substance. Wearing gloves, careful sterilization of all instruments, especially those penetrating the skin, marking bottles containing known infected blood, and avoidance of spilling blood on the hands were a few precautions mentioned

DR. JOHN J. CRAVEN, PHYSICIAN TO JEFFERSON DAVIS*

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The two most important political captives of the nineteenth century were Napoleon Bonaparte and Jefferson Davis. Each had a physician assigned to him by his captors. Napoleon's medical attendant was Dr. Barry E. O'Meara, an Irish surgeon in the British Navy. Jefferson Davis' medical attendant was Dr. John J. Craven, Chief Medical Officer at Fort Monroe, Virginia. Both O'Meara and Craven wrote books about their famous patients and thus achieved a reflected celebrity. O'Meara's account of his association with Napoleon on the island of St. Helena lifted him from obscurity. Jefferson Davis' physician, however, had already achieved individual distinction, not as a medical man, but as an inventor, for the healing profession was only Craven's second love.

John Joseph Craven was born in Newark, New Jersey, on September 8, 1822. His parents were very poor and early in life he was apprenticed to a carpenter. Craven had very little schooling, his education being largely obtained through reading and observation. After helping to build the Passaic Chemical Works, he accepted a position in the plant as superintendent of construction and repairs. The products of this plant were acids and dry salts and from a study of the processes used in their manufacture, the young man acquired a taste for science.

In 1845 when Morse's telegraph line from Philadelphia to New York was being built across New Jersey, Craven left the chemical plant and went to work in the construction department of the Magnetic Telegraph Company. The most important problem in telegraphy in those days was to get the wires over large bodies of water, all attempts at insulation having been without success. In 1847 Craven was shown a newly introduced substance called gutta percha, the gum of a Malayan tree. Craven covered a copper wire with gutta percha and tested it under the surface of Bound Creek near Elizabeth, New Jersey, that same year of 1847. Satisfied with the result, he obtained permission from his employers to submerge his wire in the Passaic River at the railroad drawbridge at Newark, connecting it with the land wires on each side. The submerged gutta-percha-insulated wire conducted electrical impulses without escape (Reid).

On June 15, 1848, Craven laid a cable for the Magnetic Telegraph Company uniting New York and Jersey City, and making complete the line between New York and Washington. This cable extended from the Cunard dock in Jersey City to a dock at the foot of Cortlandt Street. In a few days, however, it was destroyed by an anchor, and a less exposed situation was selected. Craven applied for a patent on his invention, but it was refused on technical grounds. Bitterly disappointed, the young inventor left the telegraph company and sailed around the Horn to California with a party of young men from Newark in a boat they had purchased.

Apparently, Craven did not have much success as a gold-hunter, for he was back in Newark in 1851. He now settled down to the more serious business of studying medicine, placing himself under the preceptorship of Dr. Gabriel Grant of Newark. He also attended lectures at the College of Physicians and Surgeons in New York City. When the Civil War broke out, Craven, who was practicing medicine in Newark, joined the Union Army as a surgeon. He took part in various expeditions against Confederate-held points on the South Atlantic Coast, being cited for his conduct in the assault on Fort Pulaski, Georgia. Craven rose steadily through the grades to be Medical Director of the 10th Corps. Early in 1865 he was made Medical Purveyor of the Department of Virginia and North Carolina with headquarters at Fort Monroe, Virginia, where he also filled the post of Chief Medical Officer with rank of brevet lieutenant-colonel.

Jefferson Davis was brought to Fort Monroe for confinement in May, 1865. The Confederate President was execrated and feared by his captors even more than Napoleon had been in 1815. Many of Davis' foes hoped that Fort Monroe would be his "living tomb," as St. Helena had been that of Bonaparte. Fort Monroe, the mightiest fortification in the Western Hemisphere in 1865 was considered the only

*Read before the medical staff of Riverside Hospital, Newport News, Virginia, October 13, 1950.

secure place to keep the indomitable Jefferson Davis. It is situated at the very tip of Old Point Comfort, a narrow strip of sandy soil projecting about two miles out into Chesapeake Bay. Its thick granite walls rise 35 feet above a water-filled moat which ranges from 75 to 100 feet in width and surrounds the fort in its entirety. The fort has three gates, or sally-ports, which are approached by bridges over the moat like a medieval castle. Designed by one of Napoleon's marshals in exile (Simon Bernard), Fort Monroe was built to accommodate 412 cannon. Not all of these guns had been mounted, however, and some of the gun rooms (casemates) in the walls of the fort had long been used as living quarters. It was in a casemate of the second front of the fort that Jefferson Davis was held in solitary confinement for four and one-half months (May 22 to October 2, 1865). Through Dr. Craven's intercession, the prisoner was then moved to Carroll Hall, a two-story brick building which formerly stood in the northwest bastion of the fort, where he spent the balance of his two-year imprisonment.

The story of Dr. Craven's relationship with Jefferson Davis is as well known as that of O'Meara with Napoleon. The kindly and diplomatic Craven gradually succeeded in persuading General Nelson A. Miles to remove the more severe restrictions on the imprisoned Confederate chief. However, Craven, like O'Meara, eventually grew so sympathetic with his prisoner-patient that he came into open conflict with the authorities and had to be removed in December 1865 after only seven months of attendance on Jefferson Davis. Dr. O'Meara had managed to stay with Napoleon about three years, but he undoubtedly would have been removed earlier if the isolation of St. Helena had not made his replacement difficult. Napoleon himself was never to leave his island-prison alive, for he died of cancer of the stomach in 1821. Jefferson Davis, as is well known, fared much better, for he was released from Fort Monroe in 1867 on a bail bond signed by Horace Greeley. He lived to the ripe age of 81 years, dying at New Orleans, Louisiana, in 1889 of bronchopneumonia.

Craven, mustered out of the service on January 27, 1866, returned to Newark where he gave further evidence of his versatility by serving as postmaster of that town. He also published a book that same year of 1866 entitled, *The Prison Life of Jefferson Davis.* This book was based on a diary and notes which he

DR. JOHN J. CRAVEN
A photograph he sent to Mrs. Jefferson Davis.
(Courtesy, Confederate Museum, Richmond)

had kept of his experiences and conversations with Jefferson Davis in emulation of Dr. O'Meara*. In fact, the title page of Craven's book bears a quotation from O'Meara's book about Napoleon, reading as follows: "Had I died on the throne, enveloped in the dense atmosphere of power, I should to many have remained a problem. Now, misfortune will enable all to judge me without disguise."

*Barry Edward O'Meara (1786-1836) came of a prominent Irish family. He studied anatomy in Dublin and surgery in London. Dismissed from the army in 1807 for participating in a duel, he became a surgeon in the British Navy. In 1815 he was assigned to act as Napoleon's physician on the island of St. Helena, remaining till 1818 when he was sent back to England for being too sympathetic with the prisoner. In 1822 he published a book "Napoleon in Exile; or A Voice from St. Helena," which was based on his diary. O'Meara was eulogized by Lord Byron in the third stanza of "The Age of Bronze": "And the stiff surgeon, who maintained his cause, Hath lost his place and gained the world's applause." He died in London of "erysipelas in the head." (*National Dictionary of Biography.*)

Dr. Craven visiting Jefferson Davis during his imprisonment in the casemates of Fort Monroe.
(From 1905 edition of Craven's book)

Craven's book, like that of O'Meara, had a large sale. It was praised by some and condemned by others, as would be expected from the controversial nature of the subject. The New Jersey physician favored a policy of conciliation toward the conquered Southern States and he thought that his book might serve as a guide. Craven writes, "Believing that the views of Mr. Davis may throw important light on the true policy to be pursued, the author noted down all such as he could remember, or had made notes of, as faithfully and as conscientiously as if giving his evidence under oath in a court of justice."

The authenticity of Craven's book has been impugned (Current Literature, June 1905). It has even been suggested that the book was invented by a professional writer. However, let it be noted that the events in Craven's book can be corroborated step by step, with startling accuracy, in the *Official Records of the Union and Confederate Armies, Series II, Volume VIII.* This official compilation of all documents relating to prisoners of war was not published until 1899, thirty-three years after Craven's book. (In 1905 Craven's son, William Darcy Craven, published a reprint of *The Prison Life of Jefferson Davis.*)

Critics on both sides of the Mason-Dixon Line have challenged the accuracy of some of the details of Craven's description of the shackling of Jefferson Davis. However, Craven states most clearly in his book that *he himself did not witness this event* and that his account of it "has been based on the evidence of others who came fresh from the scenes pictured." The shackling occurred on May 23, 1865, whereas Craven was not assigned to attend Jefferson Davis until the next day, May 24. At this point Craven says, "I now reach the commencement of my personal relations with the prisoner, and for all that follows am willing to be held responsible."

On May 25 Craven courageously went to General Miles and asked him to remove the shackles from Jefferson Davis. This was not done until May 28, and when it was done, Craven naturally took credit for it. However, it is now apparent that General Miles removed the shackles only because he was ordered to do so by a telegram from the Secretary of War on May 28. Not being in the confidence of Gen-

eral Miles, Craven knew nothing of this telegram. Craven, on his visits to the Davis casemate, had always to be accompanied by the Officer of the Day, and it is significant that in nearly every instance the doctor gives the name and rank of the officer accompanying him and usually states the approximate hour or portion of the day in which the visit occurred. That Craven's book was based on his diary seems indisputable. That Dr. Craven, not a writer himself, may have collaborated with a professional writer in the production of this book, does not at all invalidate it.

In 1867 Craven moved to Jersey City where he resumed the practice of medicine. Here he was approached by the officials of the Communipaw slaughter house which had been declared a public nuisance. They appealed to Craven for help with their problems because of his knowledge of chemistry and sanitation. The inventor in Craven was reawakened and he devised processes and invented machinery which enabled the abattoir to dispose of its waste matter by converting it into salable by-products. He thus acquired the standing of an expert in the problems of slaughter houses, being consulted by firms throughout the country. Attacking the problem of the preservation of fresh meat, Craven invented a refrigerating apparatus for use in cold storage, and for transportation of meat in railroad cars and steamships. The first vessel to be fitted out under Craven's supervision was the Cunard steamer "Abyssinia" in 1876.

Craven, the middle-aged physician-inventor, was more fortunate with his patents than he had been with his youthful invention of gutta-percha insulation. Wealth came to the doctor and in 1881 he retired from medical practice, moving to Patchogue, Long Island, where he henceforth devoted his attention to his business interests. With characteristic energy, Craven took a large share in the life of his adopted community: President of the Board of Education, President of the Board of Health, President of the Library Association, Fire Commissioner, and even President of the Cemetery Association! John J. Craven is remembered as having a decided taste for literature, especially versification, and remarkable memory enabling him to quote extensively from his favorite authors. He was fond of the theater, both Shakespearean and modern, and he also had an outdoor side for he enjoyed sports, fishing and hunting. Craven died of a cerebral hemorrhage on February 14, 1893, at the age of 70 years. He was buried at Patchogue.

Dr. Craven, gifted though he was, left no imprint on medicine. This is probably because Craven's aptitudes were mechanical and scientific, and the medical field at that time offered scant play for the talents of such a man. Medical practice, in Craven's day, was a rather vague art based on tenuous theories and relying on such crude measures as blistering, cupping, leeching, poulticing and purging. The great modern era of medical discoveries and advances did not dawn until Craven had retired from medical practice. Had Craven been born in this present century it is very likely that he would be an outstanding medical research scientist. One of his colleagues in the Union Army had this to say about him: "He is a very excellent, kind, skilful and conscientious medical attendant. A vigorous follower of field sports; rather spare of habit; pure Roman features, set off to advantage by military whiskers and moustache; a voice of excellent modulation, and manners of great courtesy and politeness. He is a devotee of science in all its branches, and more fully fills my idea of a savant than any other medical man it has been my fortune to meet in the army."

To Craven, the inventor, belongs the credit for devising the first successful submarine cable. To quote a speech made at the cable celebration in Philadelphia in 1858, "John J. Craven of Newark, New Jersey, made and laid the first practical, substantial, available submarine telegraph; and let his name stand out in its proper place."

After Craven's departure from the Magnetic Telegraph Company, the work he had begun was continued by others. The transatlantic cables of 1858, 1865 and 1866 were all insulated with gutta percha (Charles Bright). "The type of core . . . accepted by the Scientific Committee for the new cable was to consist of a strand of seven copper wires . . . *coated with four layers of gutta percha* . . ." (my italics).

Though John J. Craven derived no wealth from this invention of his youthful days, he at least had the satisfaction of seeing realized in his lifetime the enthusiastic prediction he made in 1848 when he wrote, "I have surely struck it. I have now in my possession a wire that is, in a short circuit beneath a stream, in connection with a main line, doing its work faithfully. Mark my words: It will yet cross rivers, bays, seas and oceans, and connect continents."

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U. S. Patent No. 175,939, April 11, 1876, for Refrigerating Chamber, issued to John J. Craven.

2914 West Avenue.

The Oath of Hippocrates

By Apollo, Aesculapius and Hygeia I declare,
By Panacea and all male and female gods, to whom I swear
That here I make my promise full and freely in their sight,
An oath to be upheld with all my knowledge and my might.
Him will I deem my father, who teacheth unto me
The mysteries of medicine; and with him, if need there be,
Will divide my last possession and for his children care
As were they my own brothers; and shall no effort spare
To instruct them in the glories of the gentle healing art,
And will take from them no recompense in doing thus my part.
To those who make a vow likewise of succour unto me
On me the same devolves in turn, a sacred claim to be.
I shall prescribe for sufferers the things that best avert
All harmful influences which may do them any hurt.
Prayers for abortions or for poisonings shall not reach my ear,
A stainless life my single aim, Humanity my sphere.
For calculus I will not cut, but leave that field alone
To those who mark that malady a province of their own.
Iniquity eschewing, I shall soothe the ailing throng,
Unshamed with slaves or freemen, doing no woman wrong.
No tales my tongue shall utter, no secrets shall betray,
But lofty faith and honour shall I strive for, day by day.
And if this vow and promise I maintain intact and sure,
My present shall content me, my future stand secure;
But should I soil my honour and break this sacred vow,
May I to perjury's penalty my head ignobly bow.

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A STUDY ON THE CORRELATION BETWEEN DEMENTIA PRAECOX AND THE MONTH OF BIRTH

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It has been stated by J. de Sauvage Nolting in 1934[5] and again in 1939[6] that in an analysis of his cases of dementia praecox for the month of birth, he found apparently a larger number of these patients were born in the winter months than at any other time. This unusual fact was related by L. Bellak[1] in his work, "Dementia Praecox". Bellak continued in some detail and noted ". . . that the lowest incidence apparently was in June, the difference of incidence between March and June being quiet significant. Only 153 of the large group were born in June; 317, the highest incidence, was in March." He further stated that . . . "any confirmatory or negating data should be easy to find in any large state hospital".

With the cooperation of Miss Edna Lantz, statistician for the Department of Mental Hygiene and Hospitals of Virginia, it was possible to tabulate as of June 30, 1949, the month of birth of patients resident in all four of the Virginia state hospitals classified by dementia praecox diagnosis.

There were 1469 patients with the birth date coded —that is, those patients whose complete birth dates were recorded. There were 1881 patients with the birth date uncoded. The former group was used for this survey. Of this group of 1469 patients, 739 were born between the winter months of October 1 to April 1. This is 50.3%. In other words, only 0.3% more were born in the winter than in the summer months; this is an insignificant and negligible amount.

It was felt that the various sub-types of the dementia praecox classification should also be included in this survey to see whether any one or more types might vary from this average. Under the simple type it was found that 79 out of 149 or 53% were born in the winter months. Under the hebephrenia type, 197 out of 389 or 50.9% were born in the winter months. Under the catatonic type, 172 out of 355 or 48.4% were born in the winter months. Under the paranoid type, 264 out of 531 or 49.7% were born in the winter months. Under the classification "other types" it was found that 23 out of 45 or 51.1% were born in the winter months. Thus it seems that none of the subtypes vary sufficiently from the over-all average to be called outstanding.

As to the findings of the birth dates in March and June—this writer found 117 patients of the group of 1469 patients being born in March and 125 patients of the group of 1469 patients being born in June.

Since the winter months comprised October 1 to April 1 and the summer months comprised April 1 to October 1, it was felt that this might represent too much "spread". So the winter months were restricted from December 1 to March 1 and the summer months from June 1 to September 1. These results, representing 25% of the year, represented 399 patients out of 1469 or 27.1% for the winter. For the summer, again of course representing 25% of the year, the results revealed 340 patients out of 1469 or 23.1%. The 2% difference seems minimal as the percentages approached 25% so closely.

However, to be statistically accurate, *the complete birth rate by month should be determined in the same year as was that of the patients in the survey. The age on first admission varied from 15 to 50 approximately, so the natality percentage per month could be any year from 1890 to 1925. It is observed in reviewing the statistics **that the crude birth rate per 1000 population per month in any one year varies up to 12% at the most and with no definite monthly regularity—with the exception of October, November and December, which often have the lower rates. This is for the total population, however, and not just Virginia.

The figures on birth rates for Virginia are not available for the actual period involved with the patients in this survey. We do have the statistics for the year 1947, however, which will be used as a

*I am indebted to Dr. Stanley Williams, Professor of Psychology, College of William and Mary, Williamsburg, Virginia, for statistical guidance.

**Vital Statistics Rates in The United States 1900 to 1940, Page 668. United States Department of Commerce, Bureau of the Census.

sample.*** Of a total of 82,141 people born in Virginia in 1947, about 1/12 or 8.33% should be born monthly. In the three winter months of December, January and February, the rates were respectively 7.59%, 9.02% and 8.27% or a total of 24.88%. In the six winter months of October, November, December, January, February and March, the rates were respectively 8.26%, 7.73%, 7.59%, 9.02%, 8.27% and 9.15% or a total of 50.02%. In the three summer months of June, July and August the rates were respectively 8.15%, 8.46% and 8.65% or a total of 25.26%.

While seasonable variations vary at the extreme of 12%, the figures included in this study are well within this range and any small difference may well be within the range of sampling error.

On the surface it seems unusual (to say the least) that a person born in a winter month is more likely to have dementia praecox than one born in a summer month. Yet, such is the finding of J. de Sauvage Nolting. The findings in this paper do not substantiate the views of the above author. Yet, there are certain possibilities that must be taken into consideration to favor the above author's views. First, from the psychological viewpoint, it must be considered that the winter baby is much more of a hardship for the parents. It requires more care than the summer baby in food requirements, heat requirements and often medicinal requirements. There is then frequently tension—at the least—and even surliness on the part of mother, father and siblings with resultant displaced hostility toward the baby. Then, too, to be considered is the fact that since the winter is such an inconvenient season to have the baby, those babies that are born then are not planned babies. Frequently babies that are not planned are not wanted. This psychological factor should not be underestimated. Second, from the organic viewpoint, there are several factors different in the winter than in the summer. One such factor as suggested by G. L. Jones*, Superintendent, Eastern State Hospital, is the possible deficiency of a specific vitamin —namely, Vitamin D. As one considers the seasonal variations in food, other items of a possible deficiency easily come to mind. Another organic factor is the "stress and strain" evolved from the body's temperature regulating mechanism being forced to modify itself to vigorous meteorological environmental conditions. R. G. Hoskins[2] noticed a sluggish response of the temperature regulating mechanism in dementia praecox. Also to be included in this organic viewpoint is the footnote to a paper by Emil T. Hoverson[3]. He says ". . . The data secured from thousands of cases tend to show that the time of conception is quite an important thing in determining the chemical stability orginally." He was discussing the meteorologic climatic conditions as influencing chemical stability and believes this has a marked influence in the origins of dementia praecox.

The above two psychological factors and the organic possible deficiency can be eliminated definitely from any consideration as determining the origins of dementia praecox as occurring in the winter, for I believe this writer's statistics have eliminated the seasons as having any bearing on those possible factors on births in dementia praecox. However, the possible factors involved in meteorological conditions such as temperature, humidity, etc., have not been reasoned with adequately. The patients used for the statistics of J. de Sauvage Nolting in The Netherlands might have experienced much different climatic conditions at birth (or at conception) than those patients admitted to the Virginia state hospitals.

Since we are discussing winter versus summer, the climatic conditions existing in The Netherlands should be compared to the conditions in Virginia. First, the latitude is roughly between 52° and 54°N. in The Netherlands and between 36.5° and 39.5°N. in Virginia. Eastern and central Virginia are just a few feet above sea level. Western Virginia is variable—with the Appalachian Mountains occupying a large sector at an elevation of 3000 to 6000 feet. Some of The Netherlands is below sea level with the remainder but a few feet above sea level. Eastern and Central Virginia are quite humid. Western Virginia is less humid. The humidity in The Netherlands is not extreme. The heat in central and eastern Virginia is often uncomfortable in the summer. The winters are more tolerable. The stress and strain of "just living" thus occurs in the summer. This is not true for western Virginia where the summers are delightful, but the winters are often severe. In The Netherlands the summers are cool and delightful but the winters are often severe. The stress and strain of "just living" in Western Virginia

***Vital Statistics in The United States, Part I, 1947—Page 53. Federal Security Agency, Public Health Service.

*A personal communication.

and The Netherlands thus occurs in the winter.

The above climatic conditions show that if severity of climate is the determining factor of a possible greater incidence of dementia praecox in one season than the other, then the admissions to Eastern State Hospital (which comprise residents of the central and eastern portions of the state) should be those born in the time of stress (the summer) for that region. Also the admissions to Western State Hospital (which comprise residents of the western part of the state) should be those born in the time of stress (the winter) for that region. It was felt that these two opposite climatic extremes might account for the 50% distribution of dementia praecox patients having births in summer and winter. That is—an increase in dementia praecox in western Virginia in winter is compensated by a decrease in dementia praecox for eastern Virginia. An objection might be raised by some at this juncture, that the patients may not have been born in these regions. In many states it is true, the population is not static—consisting of groups on the move for something better. But in Virginia it is a singular fact that a tremendous pride exists in the state. The people are quite contented, thus making their homes where they are born. For that reason these results can be considered fairly accurate for this particular state.

For Eastern State Hospital, the figures show those born in the winter months number 160. Those born in the summer, number 162. This is 50% for each period. Western State Hospital shows figures revealing 210 patients to be born in the winter months and 206 patients to be born in the summer months. This is again 50% for each period. These figures are in the same proportion as the original over-all statistics.

In a final gesture to determine if climatic conditions at birth contribute to the development of dementia praecox, it was decided to review the birth statistics at the colored hospital (Central State Hospital). It was felt that the colored group represented a race which might be more effected by climatic conditions because of being a transplanted race and because of a hereditary background climatically different from that of the white race.

B. Malzberg[4] states that the colored race in this country averages about twice as many (51.1%) cases of dementia praecox per 100,000 population as does the white race (25.6%). Those born in Virginia during the winter months numbered 233 or 47.6%. Those born in the summer months numbered 256 or 52.4%. These results are again so close to the average of 50% as to indicate that the month of birth is relatively unimportant as a contributing factor in dementia praecox.

CONCLUSION: An attempt has been made to see if the month of birth (or the winter season) was important in the subsequent development of dementia praecox as was originally stated by J. de Sauvage Nolting.

1. The collective statistics for the four Virginia state hospitals show 50% of births of dementia praecox patients occur in the winter. 50% likewise occur in the summer.

2. Statistics for the subclassifications of dementia praecox revealed the same percentage for the winter months.

3. Individual statistics for two hospitals serving different climatic regions were obtained. Again 50% of the births occurred in the winter and 50% in the summer. Thus climatic conditions per se at birth (or at conception) seem to have no bearing on the development of dementia praecox.

4. Individual statistics for the colored hospital were obtained. Again, approximately 50% of the births occurred in the winter and 50% in the summer.

As a result, this writer feels that the findings of J. de Sauvage Nolting are not substantiated. He feels also he can state with assurance that the incidence of dementia praecox bears no relation to the individual birth dates of the patients nor to the seasons of the year in which the dementia praecox patients are born.

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PUBLIC HEALTH

The Bureau of Communicable Disease Control
Virginia State Department of Health

Progress of Fourteen Years

The history of public health is intimately connected with the names of men who have aided its advancement. This page, where monthly morbidity has been reported consistently, has been close to the heart of Dr. L. J. Roper, who died June 12, 1951. Dr. Roper was associated with the State Health Department for fourteen years, the last five years of which he was commissioner of health. A study of the following record of these fourteen years gives a picture of the progress made during this period.

Cases and Deaths of Leading Communicable Diseases 1937 and 1950
Virginia

Disease	1937 Cases	1937 Deaths	1950 Cases	1950 Deaths
Brucellosis	36	2	67	0
Diphtheria	1,294	89	192	0
Measles	8,825	82	2,959	7
Poliomyelitis	68	14	1,200	62
Rocky Mt. spotted fever	54	9	76	2
Typhoid and paratyphoid	579	57	88	4
Whooping cough	4,324	238	3,293	48

There is no accurate yardstick for measuring the progress of public health work. Emphasis in Virginia is now being placed on the reporting of prematurity. This is evidenced by the new birth certificate. It is not easy to measure the progress made in rheumatic fever, cancer and alcoholic rehabilitation, where comparatively new and actively functioning public health clinics are being operated. With the cooperation of all Virginia physicians, it is hoped that the next fourteen years will continue to see the health department meeting the challenges as they occur and assisting the people of this Commonwealth to be happier and live longer.

Monthly Morbidity Report of the Bureau of Communicable Disease Control

	June 1951	June 1950	Jan.-June 1951	Jan.-June 1950
Brucellosis	7	5	33	31
Diarrhea and Dysentery	222	203	1,076	1,590
Diphtheria	5	10	68	93
Measles	2,579	486	12,792	2,124
Meningitis (epidemic)	12	11	82	81
Poliomyelitis	6	6	21	21
Rocky Mt. spotted fever	12	13	20	17
Scarlet fever	27	51	669	526
Tularemia	1	0	21	18
Typhoid and paratyphoid	4	1	23	29

Urinary Infections.

A new teaching film, "Urinary Infections-Bacteriology, Pathology and Treatment", directed by Dr. Grayson Carroll, Associate Professor of Urology, St. Louis University, in collaboration with Dr. Victor F. Marshall, Associate Professor of Surgery (Urology), Cornell University Medical College, has just been completed, it was anounced by Joseph P. Hackel, Medical Film Guild, Ltd. producers of the picture.

The film had its initial showing in the Scientific Program of the annual convention of the American College of Physicians in St. Louis. It was produced under a grant for post-graduate instruction by the Nepera Chemical Co., Inc., and is available without charge for groups of physicians, hospitals and medical schools from the Medical Film Guild, Ltd., 167 West 57th Street, New York 19, New York. Projection service, including projector, operator and screen, also are available without charge upon request.

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.
Commissioner, Department of Mental Hygiene and Hospitals.

The Guidance Center and the Community*

Guidance centers (sometimes spoken of as mental hygiene clinics) have now been in existence for over 40 years. The first such center was established for a rather limited and specialized purpose, namely, service to a juvenile court. But, as the field of mental hygiene has grown and developed, so have the goals and functions of these centers which are the most practical present-day expressions of this development. These changes have brought the centers closer to the life of the communities in which they work. If a guidance center is adequately to fulfill its role, it must truly become a community agency. As such, it has a threefold function as a medical organization, as a social agency, and as an instrument for public health.

Let us first think of the center as a medical agency. But in so doing we must remember that its other functions make it necessary to avoid the tendency that physicians and hospitals unfortunately have toward isolation from the community. We must also keep in mind that it deals with minor mental pathology rather than with major mental disease. One of the great contributions that the clinics have made to psychiatric practice is the concept of a team approach, a concept which has been in the course of adoption by hospitals for the mentally ill only during the last decade. In the guidance center, a physician (who is a specialist in psychiatry), a clinical psychologist and a psychiatric social worker labor jointly for the welfare of the patient. Each studies and handles his own phase of the situation, but the three pool their information and plan their joint endeavor as equal members of a team in which the psychiatrist is captain. The medical functions are, of course, diagnosis and treatment. It is not always easy to keep a balance between the two. On the one hand, community demands that additional patients be seen promptly are often so insistent as to make extensive diagnostic work crowd out the time needed for satisfactory treatment. Yet, without adequate treatment diagnosis loses most of its value. Moreover, psychotherapy is necessarily slow and time consuming. On the other hand, enthusiasm for therapy may lead the staff of a center into an "ivory tower" or therapeutic work in which they see so few individuals that real service to the community may be limited.

Some guidance centers limit their services to children, while others are "all purpose" and help patients of any age. It would seem that smaller cities can justify the expense of a clinic only if it serves the psychiatric needs of the community as a whole. The child guidance clinic, dealing only with children, is so highly specialized as to fit best in the larger cities or in places where there are other psychiatric resources.

As a social agency, the guidance center is in a position to work cooperatively with many organizations in the community. It can not only be helped by the other social agencies, but can also be mutually helpful to them. An easy interchange of patients and clients who need one service or the other should always be possible. Those who are helping people to solve their personal problems have a large common field of coverage even though they approach their work from different points of view. Each can aid the other. Another example of this is the help which the guidance center can give in the professional develment of the staffs of the social agencies through such media as case conferences, seminars, lecture courses, etc. The clinic can likewise be of service to the schools of a community. This, again, is mutual. The school wishes assistance with children whom they find to be emotionally upset, while the guidance center can work most effectively only with the help of the schools because they exert such an important influence in the lives of children. Service may also be given to a juvenile (and occasionally to an adult criminal) court. The task here is not one of determining sanity or insanity, but rather one of helping the judge to understand the personality of the individual before him so that he will be better prepared to make a wise disposition of that person's future. It is, of course, only those judges who see their functions as therapeutic rather than punitive who want such help.

*Article prepared by Dr. Gilbert J. Rich, Psychiatrist-Director, Roanoke Guidance Center.

Finally, as a public health agency the guidance clinic has an educational function. The task of helping people to attain and to maintain good mental health is far too large for all the psychiatrists, psychologists, psychiatric social workers and clinics that we now have in this country or are likely to have for many years. The job can only be approached by helping others to undertake a part of the task. These others are the persons who work with people. They include physicians, public health nurses, social workers, teachers, school administrators, clergymen, lawyers, judges and many others. Educational work is directed towards helping them not only with the particular psychological problems with which they meet, but also toward developing a better understanding of mental health both in general and as it applies to their special fields. Educational work in mental hygiene has eventually to be carried to wider groups in the community, such as women's clubs, parent-teacher associations, service clubs, etc.

To summarize, the task is essentially one of helping people to live happier and more useful lives, for such is the essence of mental hygiene. It is a large task, far too large to be accomplished by a clinic acting alone. The guidance center does its part directly by helping those persons most in need of service and indirectly by aiding others to integrate mental hygiene into daily activities affecting other people.

BOOK ANNOUNCEMENTS

Handbook of Medical Management. By MILTON CHATTON, A.B., M.D., Instructor in Medicine, University of California Medical School. San Francisco; SHELDON MARGEN, A.B., M.D., Clinical Instructor in Medicine, University of California Medical School; HENRY D. BRAINERD, AB., M.D., Assistant Clinical Professor of Medicine and Pediatrics, University of California Medical School; etc. Second Edition. University Medical Publishers, Palo Alto, California. 1951. 508 pages. Price $3.00.

Clinical Laboratory Methods. By W. E. BRAY, B.A., M.D., Professor of Clinical Pathology, University of Virginia; Director of Clinical Laboratories, University of Virginia Hospital. Fourth Edition. St. Louis, The C. V. Mosby Company. 1951. 614 pages. With 119 text illustrations and 18 color plates. Price $7.25.

Philosophy for the Common Man. By HEINRICH F. WOLF, M.D., New York. Philosophical Library, New York. 1951. xxxii-189 pages. Price $3.50.

Paul Ehrlich. By MARTHA MARQUARDT with an introduction by Sir Henry Dale. Henry Schuman. New York, 1951. 255 pp. Price $3.50.

Specific remedies are precious few. Quinine for malaria and colchichum for gout are the only good examples that occur to me. Iron as a cure for anemia is not so good. Mercury and iodides as specifics for syphilis left much to be desired. Until the present era, the drugs that we have used were discovered by primitive peoples or have risen from the ranks from folk medicine. About all that scientific medicine has done is to verify the tradition and to purify and standardize the product. Vaccinia is an excellent example of the process. When organic chemistry developed to the stage where structural formulae were understood, and bacteriology to the stage where the causes of diseases were established, the stage was set for chemotherapy. The chief actor was a small Jewish boy who grew up in Upper Silesia. He was born in Strehlen, March 14, 1854. At school he was very good in Latin and mathematics, but had difficulty with other studies, especially with German composition, so that his teachers had trouble in passing him. At the University in Breslau he was interested only in biology, organic chemistry with its constitutional formulae and in histology. In his first term he transferred to Strassburg. Here he became interested in the new aniline dyes. In his third term he returned to Breslau where he came under the influence of Cohnheim and Heidenhain and where he first met Robert Koch. He completed his university studies in Leipzig, continuing his experimenting with dyes and graduating M.D. in 1878 with a thesis that dealt with the value and significance in medicine of staining with aniline dyes. It contained the idea of a chemical binding of heterogeneous substances to the protoplasm, an idea that logically developed into his famous "side chain theory".

At the Koch Institute, Ehrlich was associated with

Emil von Behring in his epoch making discoveries of diphtheria and tetanus antitoxin. Indeed it was Ehrlich's chemical genius that devised ways of building up the strength of the antitoxins and of measuring and standardizing them so that they could be used clinically. A small Institute in Steglitz was created for him for serum research and control.

When no more bacteria with soluble toxin, like diphtheria and tetanus were discovered, there was no further advance in immunology along established lines. If a body could not be made to make its own antitoxin, the next step for a chemical genius like Ehrlich was to find or make a chemical with specific selectivity for an invading organism that would have little or no effect upon the host. This, Ehrlich proceeded to do. Trypan red was found to have an affinity for trypanosomes and was of some value in treating sleeping sickness. His experiments with the arsenicals is a story in itself. The first thing that he did was to show that the generally accepted formula of atoxyl was incorrect. Beginning with the corrected formula he introduced various radicals here and there. The 418th preparation, arsenophenylglycin, proved of value. Ehrlich continued experimenting. The 606th compound, arsphenamine, or diaminodihydroxyarsenobenzene dihydrochloride, to give it its full chemical name, was patented under the name of salvarsan. Ehrlich predicted great things for salvarsan, but the assistant to whom he turned it over to test medicinally, reported that therapeutically it was not as good as 418. Ehrlich was greatly disappointed and put 606 aside and continued his search. Some two years later, Kitasato, who had worked with Ehrlich at the Koch Institute, sent one of his pupils, Dr. Hata, to work under Ehrlich. In the meantime the spirochete pallida had been discovered and Dr. Hata had been engaged in Japan in producing syphilis in rabbits. Ehrlich put Dr. Hata to testing 606 again and he soon brought in the report that it was wonderfully efficacious.

The story of the man who stuck to this long trail, vital staining, the side chain theory of immunity and chemotherapy is told in a new biography by Martha Marquardt, who was Ehrlich's secretary for the last thirteen years of his life. She has told the story well and has embellished it with a lot of interesting photographs of world renowned scientists who were pupils of Ehrlich from time to time.

M.P.R.

Physical Examination in Health and Disease. By RUDOLPH H. KAMPMEIER, A.B., M.D., Associate Professor of Medicine, Vanderbilt University School of Medicine; Chief of the Medical Outpatient Service, Vanderbilt University, Nashville, Tennessee. Philadelphia, F. A. Davis Company. 1950. xx-821 pages. With 550 Illustrations, 1 in Color. Cloth. Price $8.00.

The initial training a medical student receives in physical diagnosis depends largely on the skill and patience of his instructors, the amount of supervised exposure to normal and abnormal physical findings, and finally upon the adequacy of his textbook. Numerous textbooks are available, few are adequate, but especially good is the one herein reviewed.

The author has directed his book primarily to the medical student although it contains much of practical value to practitioners of medicine. He has properly divided his chapters to a discussion of each system in the normal with complete instruction on the correct methods of physical diagnosis followed by a description of physical findings in many diseases. The text is graphically emphasized by many excellent photographs which are more impressive than the usual drawings or sketches.

Whenever possible the author gives the anatomy, physiology, and/or pathology involved to explain the physical findings in health and disease. This feature together with the many illustrations make this book far above average in its value as a text in physical diagnosis.

The reviewer highly recommends this book to the student of physical diagnosis as a text book and he will later find it a good reference when he studies disease states. Any doctor who is in practice will benefit by its use as a review of basic fundamentals in physical diagnosis and as a source of information concerning physical findings in many common diseases.

W. H. H., JR.

EDITORIALS

Miss Agnes Vanculin Edwards

AT a called meeting of the Council, Wednesday, October 11, 1950, Hotel Roanoke, Roanoke, Virginia, Dr. C. Lydon Harrell, President, Medical Society of Virginia, suggested that, in view of the long and faithful service of Miss Agnes Edwards to this organization and its publication, some recognition might be made of her life and that of her father in the Virginia Medical Monthly. Upon this suggestion, Dr. James P. King of Radford, moved that the Editor of the Monthly dedicate an issue to Miss Edwards and her father. This motion was seconded by Dr. W. C. Caudill, Past-President, and was passed unanimously by the Council.

AGNES V. EDWARDS

Dr. Landon B. Edwards (1845-1910), a native of Prince Edward County, Virginia, an alumnus of Lynchburg Military College and of Randolph-Macon College, and graduate in medicine of the University of New York (1867), settled in Lynchburg to practice his chosen profession, after an internship of one year on Blackwell's Island. He soon made for himself a leading place in the medical profession. In 1870 he was a founder of the reorganized Medical Society of Virginia and became its recording secretary, a position he held, except for the year 1883, for the rest of his life.

When Dr. Edwards moved to Richmond in 1872, he began teaching at the Medical College of Virginia. Later, when the University College of Medicine was started, he transferred his allegiance to that institution, and became at various times professor, clinical professor and chairman of the medical faculty.

In 1871 Dr. Edwards married Nannie Pettyjohn Rucker and to them were born four children: Katherine R., Charles M., Agnes Vanculin, and Landon B. There is another child, not listed in *Who's Who,* and that is the VIRGINIA MEDICAL MONTHLY. He started the MONTHLY as a private enterprise in 1874, and it grew up with the family. For years the English basement of No. 106 W. Grace Street, where Dr. Edwards kept office and published the MONTHLY, was a landmark, just as was a similar office basement further east on Grace Street where the late Dr. William H. Taylor held forth. A passer-by in the leisurely Richmond of the past century could see the occupants at work almost any hour night or day.

Upon the death of Dr. Landon B. Edwards, his son, Dr. Charles M. Edwards, inherited the MONTHLY. When the Medical Society of Virginia bought the journal in the Fall of 1919, they bought Miss Edwards with it. She worked half time November and December 1919 and full time beginning January 1920. The MONTHLY has had few homes and few bosses. Upon the founder's death in 1910, Dr. Charles M. Edwards managed it. When he went to war Miss Edwards took over and has managed it ever since. In 1919 it moved next door to 104½ W. Grace Street and in September 1932 it moved to the Richmond Academy of Medicine Building. Several months ago it moved to 1105 W. Franklin Street, a building that was purchased by The Medical Society of Virginia.

It is hard to date accurately Miss Edwards' connection with the MONTHLY. It began by her substituting for Dr. Landon Edwards' secretary, Miss Ida Thompson, at various times when the latter was sick or on vacation. Officially she was elected Business Manager and Executive Secretary-Treasurer of the Medical Society of Virginia in 1924. The MONTHLY has been the official organ of the Medical Society since its beginning. For a while, between 1896 and 1918, it appeared as a SEMI-MONTHLY, and when the American Medical Association met in Richmond in 1881, it was published daily.

There is nothing about the MONTHLY or the Medical Society of Virginia that Miss Edwards does not know. If you ask her a question, she will answer you right off and then get the minutes or the transactions and show you. We doubt if any one knows the membership of the Society as well as she does. She herself is well known throughout the nation. Wherever we go, someone connected with a medical journal is sure to ask "How is Miss Edwards". She is a charter member of the "Medical Society Executives Conference" and was a member of its executive committee in 1947.

Miss Edwards has been identified with the VIRGINIA MEDICAL MONTHLY so completely, that many believe she has no other interests. This, however, is not so. She is an alumna of Randolph-Macon Woman's College and an active worker in Centenary Methodist Church. She is also a member of the Altrusa Club. Even here she is characteristically efficient. We have tried to find a good joke on Miss Edwards, but even her fellow Altrusians can not tell us one on her.

It would be hard to visualize VIRGINIA MEDICAL MONTHLY without the guiding hand of Agnes Edwards. Her constant devotion and faithfulness have earned her a place in our hearts and we take this opportunity of expressing to her our great appreciation.

A Review and Analysis of the Report of the Hoover Commission on Federal Medical Activities

YOUR editor confesses that he is confused by the propaganda of the Citizens' Committee for the Hoover Report. Accordingly he wrote to the A.M.A. Headquarters for clarification. Here it is.

The Hoover Commission on Organization of the Executive Branch of the Government transmitted its recommendations on medical activities to the Congress in March 1949, based on two reports received from its Task Force on Federal Medical Services in January and February 1949.

The Task Force recommended that three broad divisions be established in a new United Medical Administration within the Executive Department:

(1) Medical care

(2) Public health

(3) Research and training

It further recommended that the medical functions of the Veterans' Administration in toto, all general and station hospitals of the Armed Forces with minor exceptions, the Public Health Service, and St. Elizabeths Hospital, Washington, D. C. be transferred to the United Medical Administration. It excluded from transfer the hospitals of the Bureau of Indian Affairs and of the Bureau of Prisons, the United States Soldiers' Home, the Naval Home, one medical center for each of the Armed Services, outlying military station hospitals and overseas hospitals and small hospital functions incident to the operations of such agencies as the Tennessee Valley Authority and the Atomic Energy Commission.

The Commission adopted these recommendations and transmitted them to Congress. In addition the Commission recommended that

(1) An advisory board consisting of the Surgeons General of the Army, Navy and Air Force, and the Administrator of the Veterans' Administration be appointed to assist the Administrator;

(2) Congress define the beneficiaries entitled to medical care from the Government and prescribe how this care shall be given, and

(3) The present inconsistency in policy between the Federal hospital construction program and Federal aid to non-Federal hospitals under the Hill-Burton Act be ended.

These recommendations were made "to unite the functions now in five major agencies so as to eliminate overlap, waste, and inefficiency." The Task Force, in conducting the studies prior to the issuance of its report, found the existing federal medical program was "devoid of any central plan" and concluded that "there must be over-all planning and this in turn requires first a clear definition of the extent of the responsibilities, and second an organization appropriate to carry out the commitment." It found the Government "moving into uncalculated obligations without an understanding of their ultimate cost, the lack of professional manpower available to discharge them, or the adverse effect upon the hospital system of the country." For these defects, it blamed principally "the competitive organizational climate in which the various agencies have striven to maintain themselves rather than the agencies themselves." "So competitive," the Task Force reported, "is the environment in which they operate

that no one agency can now take a Government-wide point of view. As long as this system continues, uneconomical use of medical manpower and facilities will continue."

The Commission recognized that its program could not function unless it was "accompanied by a clear definition by the Congress of the rights and priorities to medical care of all the various classes of beneficiaries." It was thinking particularly of servicemen's dependents and seamen, and most important, of veterans with non-service-connected disabilities, indigent or not. Furthermore, it touches on the complex issue of assumption of Federal financial responsibility for medical care, wherever provided, versus the provision of such medical care directly in Federal hospitals.

The "grave question" was raised whether "the Federal Government should erect an independent hospital system of its own, devoid of community roots, for approximately one-seventh of the total population."

Mr. Hoover and Mr. Manasco dissented "vigorously" from the Commission's recommendation that the Board be "advisory" only and urged instead a board composed of the Surgeons General of the Armed Forces and Public Health Service, and the Medical Director of the Veterans' Administration, with power to determine the policies of the United Medical Administration. Hoover and Manasco said:

> "Because the recommended consolidation of hospitals and certain other medical services is such a revolutionary change from anything heretofore attempted in our Government we, in dissenting, have attempted to find an intermediate step that would overcome an admittedly critical situation and at the same time provide an orderly transition from an outmoded system to an efficient organization. . . . This we feel must be done if the Armed Forces are to meet their obligations in time of peace and have available a trained nucleus of personnel capable of rapid expansion in event of war. . . . *We sincerely believe that unless the Board is given such powers as recommended by us the program will weaken if not destroy military medicine.*" (Italics supplied.)

Commissioners Acheson, Aiken and Rowe dissented from the proposal to set up a new agency and argued instead for a Department of Welfare to include the existing functions of the Federal Security Agency and the hospital activities of the government. As an alternative, they recommended that the Public Health Service be placed in the Department of Welfare even though hospital activities were consolidated in a separate agency.

Brown and McClellan dissented from the recommendation that the hospitals of the Armed Forces be transferred to any new agency on the basis that such a transfer might endanger the quantity and quality of medical and hospital services required by military personnel.

Commissioner Forrestal, in view of his position as Secretary of Defense, abstained from participating at the time of the report.

Thus, of the eleven Commissioners who submitted the Report on Medical Activities Within the Executive Branch of the Government, seven dissented from major recommendations, leaving only four who endorsed the report as a whole.

Bills have been introduced into the 82nd Congress (S. 1140 and H.R. 3688) to carry out the provisions of the Commission's report. In the 81st Congress, S. 2008 was considered by the Senate Committee on Labor and Public Welfare, but was not brought to the floor for a vote.

The 1951 version of S. 2008 (S. 1140) provides for a Department of Health instead of a United Medical Administration and an Advisory Board consisting of the Secretary of Defense, Administrator of Veterans' Affairs and the Surgeon General of the Public Health Service. Otherwise no important changes are made.

The Hoover Commission's Report was followed by an active public education campaign sponsored by the Citizens' Committee for the Hoover Report and recently a special physicians' committee (The National Doctor's Committee for Improved Federal Medical Services) was named to develop support among physicians and to lend its prestige to the public campaign.

Dr. Walter B. Martin, a Trustee of the American Medical Association, in testifying against S. 2008, in July 1950, on behalf of the American Medical Association, made the following points:

"Any action of the Congress that proposes to place on a more rational basis the federal hospital construction program and to more efficiently utilize federal medical personnel, merits sympathetic consideration. It would seem obvious that the hospital service needs of the Armed Services, the Veterans' Administration and the other agencies of the Federal Government should, to the fullest extent possible, be closely correlated to prevent unnecessary expenditures for additional construction and to assure the maximal utilization of existing facilities and of available medical personnel.

"We are strongly impressed by the Hoover Commission recommendations designed to effect economy in the operation of the several medical services under the Federal Government, provided that economies can in fact be accomplished without sacrifice of the quality of service rendered and without seriously hampering the primary mission of the Armed Forces and the Veterans' Administration.

"A careful perusal of S. 2008 reveals no evidence of how economies are to be accomplished, how the special functions of the several services are to be preserved or how the quality of medical care is to be safeguarded.

"The American Medical Association has repeatedly advocated the consolidation of the medical activities of the Federal Government other than those of the Veterans' Administration and the Armed Forces under a single Department of Health. It has many times pointed out the wastefulness of an uncoordinated hospital construction program and has called attention to the abuse of the hospital facilities of the Veterans' Administration by the admission to those facilities of non-indigent veterans with non-service connected disabilities. Much of the pressure for new construction would be relieved if this abuse were corrected by Congressional action.

"We object particularly to the administrative provisions of the bill. The administrator who is responsible directly and only to the President is given authority to issue regulations without any restraint but that of the President. The Advisory Board, made up of the Surgeons General of the Army, Navy and Air Force, and the Administrator of the Veterans' Administration or their designated representatives, has no real power. The bill provides that the Board will meet at least once each month to consult with the Administrator on policies or proposed policies. It can in no way control the decisions of the Administrator. It is noted that the Public Health Service with its multiple functions and activities has no representation on the Board, nor has the general public.

"The American Medical Association believes that an integrated system of hospitals should be developed for the country as a whole, such as is now developing in many states under the Hill-Burton Act, but that the consolidation of the medical services as proposed in S. 2008 at this time and until such time as careful study has developed more convincing evidence of such a consolidation, would be a risky procedure and fraught with great possibilities of harm.

"The Association is of the opinion that the Congress should proceed slowly in this matter and that any action by the Congress should be preceded by a careful study of

the entire problem, with particular reference to economy, the effect on the quality of medical care and on the execution of the primary mission of the Armed Forces, the Public Health Service and the Veterans' Administration.

"It further believes that the principal economy to be accomplished is in the effective coordination of the several hospital systems that would provide for the joint use of available beds and joint planning in the field of hospital construction. It believes that a central hospital board clothed with authority to adjust the hospital program to the needs of the services could gain the end desired without consolidation of professional personnel."

These remarks are equally applicable with respect to S. 1140, 82d Congress, entitled "A bill to establish and to consolidate certain hospital, medical and public health functions of the Government in a Department of Health."

RECOMMENDATIONS

Recognizing that serious abuses do exist in the conduct of the federal government's hospital system, the Board of Trustees of the American Medical Association recommends:

(1) That a board be established on the federal level to control the distribution of beds among the several federal hospital services and to determine the need and location of proposed new federal hospitals in the continental United States. This board should be made up of recognized authorities in the field of medicine and hospital administration. The Surgeons General of the Armed Forces and the Public Health Service, and the Chief Medical Director of the Veterans' Administration should be consultants to this Board.

(2) That the Armed Forces and the Veterans' Administration maintain their present administrative independence but that they come under the Board with reference to (a) joint utilization of available beds, and (b) construction, expansion and location of federal hospitals in the continental United States.

(3) That the present law pertaining to the hospitalization of veterans with non-service-connected disabilities be reviewed and amended with the purpose of controlling the admission to veterans' hospitals of non-indigent veterans with non-service-connected disabilities.

SOCIETY PROCEEDINGS

Lynchburg Academy of Medicine.

The June meeting of the Academy was ladies' night and a dinner was served at the Boonsboro Country Club. Afterwards a floor show was furnished by Jack Weldon of radio station WWOD.

The only business transacted was the election of a new member, Dr. Joseph Lawson Platt, who was transferred from the Knoxville Academy of Medicine.

NEWS

Medical Society of Virginia.

Now is the time to be thinking of attending the annual meeting of the Society to be held at the Cavalier, Virginia Beach, October 7, 8, 9 and 10, under the presidency of Dr. C. Lydon Harrell of Norfolk. The program lists papers on a variety of interesting subjects and there will be attractive exhibits, scientific and technical. Representative Hugh D. Scott of Philadelphia will speak following the president's address on Monday evening. Other guests include a speaker from the American Medical Association, and Dr. Winthrop M. Phelps of Baltimore, and Dr. John E. Howard of Baltimore. The usual dinner and entertainment will be enjoyed on Tuesday evening.

A large attendance is expected. Make your plans to be among those present.

American Medical Association.

The recent meeting of the Association, under the presidency of Dr. Elmer L. Henderson of Louisville, was excellent in every detail. Dr. John W. Cline of San Francisco succeeded to the presidency, and Dr. Louis H. Bauer of Hempstead, N. Y., was chosen president-elect. Dr. Oscar Hunter of Washington, D. C., was named vice-president. Dr. George F. Lull and Dr. J. J. Moore, both of Chicago, were re-elected secretary-general manager, and treasurer, respectively. Dr. Walter B. Martin of Norfolk was re-elected to the board of trustees for a term of five years and Dr. David B. Allman of Atlantic City was named for a three-year term to succeed Dr. Bauer, who was named president-elect. The 1952 annual session of the Association will be held in Chicago.

The American College of Chest Physicians

Held its 17th annual meeting at the Ambassador Hotel, Atlantic City, New Jersey, June 7 through 10, with a registration of 1040. On June 9, at the administrative session, the following officers were elected for the coming year: Dr. Chevalier L. Jackson, Philadelphia, President; Dr. Andrew L. Banyai, Milwaukee, President-Elect; Dr. Alvis E. Greer, Houston, and Dr. William A. Hudson, Detroit, Vice-Presidents; Dr. Minas Joannides, Chicago, Treasurer; and Dr. Charles K. Petter, Waukegan, Ill., Assistant Treasurer.

At the Convocation ceremony held on June 9, 109 physicians received their Fellowship Certificates. Oral and written examinations for Fellowship in the College were given to 58 physicians on June 7.

Dr. Charles L. Harrell of Norfolk serves as Governor of the College for the state of Virginia.

Dr. Dean B. Cole of Richmond, serves as Regent of the College for the District No. 4.

Medical College of Virginia News.

On June 5 the Medical College of Virginia awarded 298 degrees or diplomas at its Commencement ceremonies at the close of the one hundred and fourteenth session. Ninety-five of these degrees were in medicine, forty-four in dentistry, fifty-one in pharmacy, fifty-nine in nursing, forty-two certificates in physical therapy, and seven certificates in hospital administration. The latter was the first group to complete the new eighteen-month's course in hospital administration.

Dr. Randolph H. Hoge, professor of gynecology, and Dr. A. B. Gathright, Jr., assistant professor of clinical medicine, gave a series of lectures on cancer from June 4 to June 9 throughout the state of Montana. The talks were sponsored by the Montana Medical Association and the Montana State Board of Health.

On May 21-25 a course in polio treatment, "Nursing Care of the Poliomyelitis Patient", was held at the Medical College of Virginia. The training course, sponsored by the Richmond-Henrico Chapter of the National Foundation for Infantile Paralysis, was well attended by nurses from over the state.

In addition to several adjunct faculty promotions, the following major faculty promotions effective July 1 have been announced: For the School of Medicine—Dr. James F. Blades, Dr. William R. Hill, Dr. John R. Massie, and Dr. T. Duval Watts, Assistant Professors of Clinical Surgery.

Dr. Milton Flocks,

Formerly of Arlington, has moved to San Francisco, where he begun a residency in Ophthalmology at the VA Hospital there.

Dr. William R. Bond

Has been appointed director of clinical research for the A. H. Robins Company, Inc., of Richmond, effective the first of July. He was formerly engaged in medical research for the Schering Corporation and more recently has served as medical director for Charles C. Haskell and Company of Richmond.

Dr. C. L. Outland,

Medical Director, Richmond Public Schools, has been invited to act as a consultant to the Third National Conference on Physicians and Schools to be held in Highland Park, Illinois, in November, under the auspices of the Bureau of Health Education of the American Medical Association.

Dr. Outland will also serve as discussion leader on the subject: Medical Guidance in Physical Education including Athletics.

News from the State Department of Health.

Dr. James J. Kidney assumed his duties on July 9 as Health Officer of the Russell-Wise Health District with headquarters in Norton.

Dr. John P. Ruppe, Health Officer of the Alleghany-Botetourt Health District, will resign at the close of business, July 25.

Dr. J. N. Rose, a former practicing physician at Harlan, Kentucky, has been named as health officer for Pittsylvania County and will be located at Chatham.

The Second Annual Medico-Military Symposium

Will be held at the U. S. Naval Hospital, Philadelphia, Pennsylvania from 22-27 October 1951, with the view of keeping military Reserve Medical Officers of the Armed Forces, Army, Navy and Air Force posted on the latest developments in the Field of Medical Science.

Commodore Richard A. Kern, MC, USNR, Professor of Medicine, Temple University School of Medicine and Chairman of the Symposium General Committee, will preside over the opening session and introduce the speakers.

It is urged that officers make hotel reservations well in advance, since no government housing facilities will be available. The final session of the Symposium will be held Saturday morning 27 October, leaving the afternoon free for officers to attend the Penn-Navy football game.

Pan-Pacific Surgical Association.

Doctor F. J. Pinkerton, President of the Pan-Pacific Surgical Association, reports plans well under way for the Association's Fifth Congress and advises doctors to make arrangements as soon as possible to attend this meeting. Dates for the Honolulu congress are *November 7-19, 1951.* The scientific program, which will begin on November 12th and continue through November 16th, will include sessions in all divisions of surgery, with papers presented by topflight surgeons from the Pacific area countries. In addition to attending an outstanding surgical conference, doctors may enjoy a delightful vacation in Hawaii and are urged to bring their families with them, with the assurance of luxurious accommodations.

The Pan-Pacific Surgical Association has been officially appointed as travel agent for those attending the congress, and it is therefore important that all hotel and travel reservations be made through the Association office, Suite 7, Young Hotel Building, Honolulu, Hawaii.

The Arthritis and Rheumatism Foundation

Is offering research fellowships in the basic sciences related to arthritis. Fellowships will be granted at both the predoctoral and postdoctoral levels. The predoctoral fellowships will range between $1,500 and $3,000 per annum, and the postdoctoral from $3,000 to $6,000. The deadline for these applications is November 15, 1951. Application forms may be obtained by writing the Medical Director, Arthritis and Rheumatism Foundation, 535 Fifth Avenue, New York 17, N. Y.

A Symposium on Peptic Ulcer,

Sponsored by Kanawha (W. Va.) Medical Society, will be held at the Daniel Boone Hotel, in Charleston, October 3, 1951. The meeting is scheduled to open at 1:30 P.M., and adjourn by nine o'clock.

The program will be presented by Drs. Keith S. Grimson, Robert J. Reeves, Wayne R. Rundles and James P. Hendrix, all of Duke University School of Medicine.

There will be a registration fee of $5.00, including dinner which will be served at 6:30 o'clock. All

interested physicians in West Virginia and adjoining states are invited to attend the meeting.

State Board of Medical Examiners.

At its meeting in June, the Board decided to meet next at the Richmond Hotel, Richmond, December the 6th, and to have the examinations on December the 7th and 8th.

Dr. C. L. Riley of Winchester was elected president of the Board, Dr. C. L. Fifer of Alexandria vice-president, and Dr. K. D. Graves of Roanoke was re-elected secretary-treasurer.

Ground Broken for New Institute of Pathology.

Ground breaking ceremonies for the new Armed Forces Institute of Pathology were held July 10, at the Army Medical Center, Washington, D. C. The $7,250,000 structure will take approximately two years to build, and upon completion will fulfill a long felt need in the field of pathology. The building will be completely air-conditioned and will provide approximately 200,000 square feet of working space. The scientifically designed laboratories will be equipped with the most modern scientific equipment.

During the past half century, five different attempts have been made to obtain funds necessary to construct new quarters for the Armed Forces Institute of Pathology, which before unification of the Military Establishment has been known as the Army Medical Museum and the Army Institute of Pathology. It is due largely to the continued efforts of Brigadier General Raymond O. Dart, a medical officer, who served as the Institute's Director from 1946 until his retirement in 1950, that present plans have been realized.

Dr. George B. Lawson,

Roanoke, has been re-appointed by Governor Battle as a member of the State Board of Health for a term ending June 30, 1958.

Dr. R. S. Griffith,

Ninety-year-old Waynesboro doctor, who in 1900 became a member of Acca Shrine Temple in Richmond, has been honored by Union Royal Arch Masonic Chapter No. 2 of Staunton. He is the oldest member of that organization and a large number paid special tribute to him in June. Dr. Griffith has held a number of State Masonic offices.

Dr. Charles H. Brant

Has been appointed chief of preventive medical service in the Richmond Health Department, a position which has been vacant since January 1950. He is a graduate of the Medical College of Virginia in 1946 and is a former resident of Cleveland.

Southern Medical Association.

The forty-fifth annual meeting of the Association will be in Dallas, Texas, November 5-8, under the presidency of Dr. Curtice Rosser of that city. This will be divided into twenty-one sections and the Woman's Auxiliary will meet at the same time. There should be something of interest for every one.

U. S. Vitamin Corporation Buys Arlington Chemical Company.

U. S. Vitamin Corporation, New York, N. Y. has announced the purchase of the Arlington Chemical Company of Yonkers, N. Y. The 72,000 square foot plant, together with a large new building to be constructed thereon, will be utilized to enlarge the services of both U. S. Vitamin and Arlington to the medical and pharmaceutical professions.

Mr. H. B. Burns, President, states that the present and planned new manufacturing and laboratory facilities, together with an additional score of chemists and other scientists, will lead to the introduction of several new Arlington products.

The Arlington personnel will be maintained and expanded under the direction of U. S. Vitamin Corporation. Main offices of U. S. Vitamin will continue at 250 East 43rd Street, New York 17, N. Y.

The Virginia Section, Southeastern Surgical Congress

Will meet September 13-15 inclusive at the Lord Baltimore Hotel, Baltimore, conjointly with the sections from Maryland, West Virginia and the District of Columbia.

The meeting this year will consist of operative clinics in the mornings and scientific papers in the afternoons of the first two days, with scientific papers on the third morning.

Dr. Waverly R. Payne of Newport News is chairman of the Virginia section, while Dr. W. Raymond McKenzie is chairman of the host state section. Chairman of the program committee is Dr. George Brouillet of Baltimore.

Dr. Harry Lee Claud is chairman of the District of Columbia section and Dr. E. L. Gage, chairman of the West Virginia section, of which Mr. R. J. Wilkinson, Jr., is executive secretary.

Married.

Dr. Robert M. Miskimon and Mrs. Archer Coke Dennison, both of Richmond, on June 9th.

Criss Award Given for Work in Medicine.

Because of their brilliant work in the development and use of Cortisone, Dr. Philip S. Hench and Dr. Edward C. Kendall of the Mayo Clinic were named joint winners of the first Mutual of Omaha $10,000 Dr. C. C. Criss Award for outstanding contributions in the fields of public health and safety. Presentation of the award was made at the meeting of the American Rheumatism Association at Atlantic City on June 9th.

The Dr. C. C. Criss Award was created in 1949 in honor of the founder and Chairman of the Board of Mutual of Omaha, world's largest exclusive health and accident insurance company. It is awarded to the person or persons residing in the United States, Canada, Alaska or Hawaiian Islands, who, in the opinion of the Board of Judges made the greatest contribution to the public health and/or safety each year.

The Award is open to anyone in the fields of public health or safety. It is, therefore, a real tribute to the great advances that have been made in Medicine that the first winners of the prize, second only to the Nobel prizes in cash value, should be won by workers in this field.

OBITUARIES

Dr. John C. King,

Former superintendent of the Southwestern State Hospital at Marion and founder of St. Alban's Sanatorium at Radford, died June 24. He was eighty years of age and a graduate of the College of Physicians and Surgeons of Baltimore in 1893. He was a charter member of the Southwestern Virginia Medical Society and had been a member of the Medical Society of Virginia for more than fifty years, and had been active in society work. Surviving are his wife and four children, one of them Dr. James P. King of Radford, and also a daughter, Dr. Clara King Dickinson of Marion.

Dr. Bathurst B. Bagby,

For many years active in Virginia public health work, died at his home at Edwardsville on July 6th, at the age of seventy-two. He was a graduate in medicine of George Washington University, Washington, in 1904, and practiced medicine for nineteen years. He took up public health work in 1923 and continued in this until his retirement in 1940. After that he served in civil defense work during World War II. He had been a member of the Medical Society of Virginia since 1905. He is survived by his wife and two sons.

Dr. Rufus L. Phipps,

Proprietor of the Dickenson County Memorial Hospital at Clintwood, died at a hospital in Richmond on July 12th. He was sixty-nine years of age and a graduate in medicine from the Louisville and Hospital Medical College in 1908. He had practiced most of the time in southwest Virginia and was for many years a member of the Medical Society of Virginia. His wife and two daughters survive him.

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GUEST EDITORIAL

The Nemours Foundation and its Program for Crippled Children

A Living Memorial to Mr. Alfred I. duPont

MANY great men leave monuments which are memorials to their lives, but often the character of these monuments is not revealed during life. This is the story of a living memorial for children left by Mr. Alfred I. duPont which will perpetuate his memory for years to come and will be shared by thousands of young handicapped boys and girls, who, on account of it, will be enabled to live fuller and more useful lives. Mr. duPont, during his life-time, contributed liberally to many worthy humanitarian projects, including pensions to the aged and institutions for the sick. He departed this life in 1935. His Testamentary Trustees were authorized by his will to establish and operate a charitable corporation to be known as the Nemours Foundation.

The year after Mr. duPont's death, his Trustees organized The Nemours Foundation and proceeded under the will to build at "Nemours," near Wilmington, Delaware, an institution "for the care and treatment of crippled children, but not of incurables." The first plans for the new institution were made by a Medical Advisory Board of eight nationally known physicians in conjunction with the Trustees. It was the desire of these two groups to construct an institution as nearly ideal as possible, where hospitalization and education of the curable crippled child could be given, where research studies on problems related to the crippled child could be pursued, and where post-graduate training of workers in the field of the care of the crippled child would be available. On this Board there were two Virginians: Dr. William Tate Graham and the late Dr. Beverley R. Tucker, both of Richmond. One of the first acts of this Board was to select the writer of this editorial as a full-time Medical Director.

After three years of planning and building, this institution was opened on July 1, 1940 and was named the Alfred I. duPont Institute of the Nemours Foundation. It is a hospital and school of 85 beds with facilities for an out-patient department, surgery, physical therapy, education, recreation, and laboratory research, where no charge for any service rendered is made. Since its beginning over 3500 children up to sixteen years, of age, of all races, creeds, and colors, have been examined in its clinics and over 1100 have been admitted to its wards. One-third of the in-patients and one-sixth of the out-patients have come from states other than Delaware. Approximately 60 of these children have come from Virginia.

In 1948, it was decided to extend the work of the Foundation to Florida. This southern state was chosen because Florida had been the adopted state of Mr. and Mrs. Alfred I. duPont and Jacksonville had been their residence for many years prior to

Mr. duPont's death. Before the start of the Florida program, the Medical Director surveyed the work for crippled children in this state, visiting all the crippled children's institutions and conferring with those in charge of the state and local programs. It was found that in Florida there were hundreds of crippled children on the waiting list of the Florida Crippled Children's Commission, the official state agency. These children had been examined by qualified orthopaedic surgeons and their hospitalization recommended but, due to lack of funds, could not be hospitalized. The hospitals had an abundance of empty beds to care for all of these children, but no one of the crippled children's institutions at that time had a sufficient endowment to care for indigent patients. There was no doubt that in 1948 the greatest need in Florida was that of money for hospitalization. Following this review of the services, the Foundation started a program to give direct financial aid to the crippled children by paying for their care in the hospitals and convalescent homes. Since this time, in eleven or more institutions in Florida, the Nemours Foundation has maintained a daily average of fifty crippled children or the equivalent of the number of occupied beds in the Alfred I. duPont Institute in Wilmington during the same period of time. However, due to the shorter period of hospitalization necessary for the Florida children, more than twice as many children have been given hospital care as in the Alfred I. duPont Institute over the same period. In the survey it was very apparent that there were many agencies working with handicapped children not fully cognizant of what other agencies were doing. In February of 1949, a state-wide crippled children's conference was arranged for by the Florida Children's Commission at the request of the Nemours Foundation. This was a most successful meeting of workers in this field in which 27 unmet needs for the handicapped child of Florida were presented and discussed. Following this meeting a planning committee was formed as a Subcommittee on Services to Handicapped Children of the Florida Children's Commission. This committee for the last two and a half years has had regular meetings to discuss the ways and means of improving these services and to make recommendations. Since the original conference, two annual conferences on the problems of the crippled child have been sponsored and financed by the Foundation. These meetings have been extremely well attended and most enthusiastically received by all the agencies working with crippled children. The Foundation has also helped to finance special meetings for doctors, parents, and teachers on subjects related to the crippled child. This Florida program represents a fine example of a private agency working with state agencies for the common good and making it possible to render greater services to more children than could be done in the aggregate by each agency working separately.

Believing that the South presents a greater need for assistance in the care of the crippled child than other sections of the country, the Board of Managers of the Nemours Foundation, in November of 1950, decided to extend the work of the Foundation into another southern state. Virginia was selected because of the needs of the state and the familiarity of Mrs. Alfred I. duPont and many of the other members of the Board with the problems of Virginia and the belief that these problems are similar to rippled children's problems in other states. With instructions from his Board, the Medical Director explored the possibilities of a Virginia program and the best means of starting such. Conferences were held with officials of the Virginia Council for Health and Medical Care, with Directors of the crippled children's program in the State Board of Health, with the Deans of the two medical schools, with the President and Executive Secretary of the Virginia Society for Crippled Children and Adults, with the President and Board Members of the Southwest Virginia Crippled Children's Society, with rep-

resentatives of some of the hospital Boards, and with many physicians. After these conferences, it was the feeling of the Medical Director that a meeting of agency representatives and individuals working with crippled children, as had been done in Florida, would be of great benefit to everyone in this field of work and would result in not only greater mutual understanding and clarification of agency responsibility, but would point up the existing gaps in the overall state program. A decision was reached by the Board of Managers of the Nemours Foundation in January of 1951 to ask the Virginia Council for Health and Medical Care to hold such a state-wide crippled children's conference. The Council acted favorably upon this request and decided to proceed with plans to hold such a meeting in Richmond on September 27 and 28. Following this conference, the Nemours Foundation will make final plans for its Virginia program. Through the assistance of the Foundation, the present program in Virginia will be augmented and should be made more effective in rendering services to the crippled child of the State.

The establishment by the Nemours Foundation of this Virginia program will represent a third step in the creation of this living monument to the memory of Mr. Alfred I. duPont which he so intelligently provided for in his last will and testament. The good which has been done and will be done under this trust can only be measured in terms of happiness and success in life of those crippled children who share in this memorial. It is certainly with great satisfaction that the Medical Director can announce to the physicians of Virginia through the pages of the Virginia Medical Monthly that Virginia will now participate in this splendid philanthropy for the handicapped child.

Alfred Rives Shands, Jr., M.D., *Medical Director*
Alfred I. duPont Institute of the Nemours Foundation
Wilmington, Delaware

Floral Eponym
Achilles

ACHILLES, the son of Peleus and Thetis, was dipped in the River Styx by his mother which rendered him invulnerable except in the heel, where his mother's fingers kept the water from coming in contact with him. He was the greatest warrior of the Trojan war and was the embodiment of the Greek ideal of youth, strength, valor, chivalry and beauty. According to *Taylor's Encyclopedia of Gardening,* Achilles is supposed to have used some species of Achillea to heal his wounds. According to *Webster's New International Dictionary* this plant was said to have been used by Achilles in treating Telephus. Another legend has it that the King of Mysia's wounds were cured by rust stolen from Achilles' spear "Pelian". At any rate this genus is named for Achilles, and is associated with the idea of healing.

Achillea is a large genus of perennial herbs, family Compositae, mostly from the north temperate zone. A. millefolium, the common yarrow, also called milfoil, contains a bitter, aromatic, astringent principle, achillein, and a volatile oil, which has been used as a stimulant and tonic.

COMMONWEALTH OF VIRGINIA
GOVERNOR'S OFFICE
RICHMOND

JOHN S. BATTLE
GOVERNOR

WALTER REED

In recognition of the contribution of Walter Reed to medical science, the Medical Society of Virginia is arranging special ceremonies commemorating September thirteenth, the birthday of this great physician and Virginian.

Dr. Reed's part in conquering yellow fever and his life-long devotion to measures designed to eradicate disease assures him a permanent place among the great Americans of all time.

Dr. Reed was born in Virginia, and it is appropriate that the medical profession and the citizenship of his native State pay tribute to his invaluable achievements on the occasion of his birth anniversary.

John S. Battle

THE VISCERAL LESIONS OF SCLERODERMA*

J. Morrison Hutcheson, M.D.
Richmond, Virginia.

The purpose of this paper is to direct attention to the involvement of organs other than the skin in the course of scleroderma, and to discuss briefly certain pathologic changes and resulting clinical manifestations that occur in this disease, particularly in the heart, the lungs and the digestive tract.

For generations the term scleroderma (meaning hardening of the skin) has been thought of as a condition manifested by changes in the skin and subcutaneous tissues. Even in the most modern textbooks on medicine, little or no reference is made to accompanying changes in other structures, though symptoms of such changes are mentioned with the implication that they are indirectly due to limitation of motion through gradual tightening of the integument. In recent years, especially during the past decade, numerous studies have appeared describing in detail involvement of various structures throughout the entire body, and emphasizing the fact that scleroderma is a generalized systemic disease. Like lupus erythematosus, in which the superficial manifestations, while most conspicuous, are only a part of the clinical and pathological picture, scleroderma includes many organs and tissues not accessible to inspection.

The cause of scleroderma is unknown. Efforts to incriminate the thyroid, pituitary, parathyroids, adrenals, or thymus, have not been successful. Nor has it been shown that disturbances in the central nervous system or perversion of nutrition play any significant part. The frequent association of scleroderma with Raynaud's phenomenon has suggested that vasospasm may be a primary event, yet this factor is not demonstrable in a large proportion of cases of scleroderma, and Raynaud's disease persists for many years without resulting changes in the skin or subcutaneous tissues. Moreover, in cases where manifestations of Raynaud's disease are present, they often follow rather than precede hardening of the skin. It seems likely that scleroderma results from some unknown cause that affects connective tissue throughout the body. It is certain that a group of diseases, notably lupus erythematosus, periarteritis nodosa, dermatomyositis, rheumatoid arthritis and scleroderma have many characteristics in common, and it has been suggested that they may result from the same type of pathologic physiology.[1]

In advanced cases of scleroderma, the essential changes consist of increase and swelling of the collagenous or albumenoid substance of connective tissue, with pigmentation and swelling of elastic fibres. After the edematous stage, the collagenous fibrillae become thickened and replaced by dense fibrous tissue. The smaller arteries within the region involved show corresponding sclerotic degeneration and thickening which may proceed to obliteration of the lumen and focal necrosis. Such changes have been found, not only in the skin and internal organs, but also in muscle, fascia, tendons, bone and endocrine glands.

In the heart, scars of unusual type involving the myocardium have been described. These differ from those caused by vascular disease in that they are not found in the arteries which are normal or show only minor intimal thickening without thrombosis or significant diminution in the caliber of the lumen. The lesions are characterized as focal over-growth of fibrous tissue, with secondary destruction of other myocardial structures. In addition, there is pericardial and sub-endocardial fibrosis. The evidence points toward the interpretation that the myocardial lesions are an integral part of scleroderma.[2]

Changes in the lungs found in scleroderma have been characterized as being of two main types. The first is described as a cystic sclerosis which is explained as follows: First, fibrosis appears in the interstitium of the pulmonary parenchyma, to be followed by disappearance of the capillaries with diffuse superimposed fibrosis of the alveolar walls. A dissolution then occurs in the alveolar walls which leads to the formation of cysts of varying size. The second type of change is a compact pulmonary sclerosis in which there is no actual dissolution of lung tissue. As a result of thickening of the walls, the alveoli are gradually reduced in size, and many small air spaces are contained within areas of fibrous tissue. Associated and secondary changes are

*Read at the annual meeting of the Medical Society of Virginia, at Roanoke, October 8-11, 1950.

atrophy and fibrosis of the musculature of the bronchial tree, widespread bronchiolectasis, and the results of suppurative complications.[3]

In the digestive tract, the characteristic findings in scleroderma are atrophy of the muscular layers and replacement by fibrous tissue. The esophagus appears to be most frequently affected, but similar changes have been observed in the walls of the alimentary canal throughout its course. In the esophagus more or less dilatation of the lower two-thirds is seen, with diminished or absent peristalsis, loss of mucosa and, often, ulceration.

Scleroderma affects females twice as often as males, and most commonly in the fourth and fifth decades, though it may appear at any age. Involvement may be general, or a localized form known as morphea may occur. The course is variable. It may be rapid, or may progress slowly over many years, with periods of apparent improvement. The skin changes begin with edema, to be followed by induration and atrophy. In the later stages, the skin is smooth, tightly stretched over bony prominences, and closely adherent to underlying tissues. Pigmentation is often present. Early symptoms may be referable to joints or muscles, and rheumatoid arthritis or fibrositis may be suspected before the characteristic picture develops. Laboratory studies give no information that is helpful in diagnosis.

Some observers have separated a group of patients with scleroderma of a type which they designate acrosclerosis. In these patients, Raynaud's phenomenon is prominent, and skin changes are confined largely to the face, chest and extremities. Vasomotor disturbances in the extremities usually occur early and may persist for years before skin changes appear. Though other structures than the skin are involved, it is claimed that in acrosclerosis the tendency to spontaneous arrest is greater and the prognosis as regards life is better than in diffuse scleroderma.[4]

Weiss, Stead, Warren and Baily[2] collected nine cases of scleroderma showing evidence of heart disease, with two autopsies. Seven of the nine patients were women, the average age at the onset of skin changes being 38 years. All showed signs and symptoms of heart failure, and in three patients cardiac symptoms preceded the onset of cutaneous changes by as much as two years. In all cases the heart was enlarged, but there were no other clinical findings that might not be associated with cardiac enlargement from other causes. The cardiac silhouette was triangular in shape and did not suggest hypertension or valvular disease. The combination of triangular shape and a beat of poor amplitude suggested to the roentgenologist myxedema heart or pericardial effusion. Electrocardiograms in eight cases showed some abnormality, such as auricular fibrillation, premature contractions, partial block, bundle branch block, and low electromotive force. Six of the nine cases died with evidence of congestive failure. In two cases that came to autopsy, the heart showed changes already referred to as due to scleroderma. Symptoms differed in no essential way from those commonly associated with heart failure.

Where the lungs are involved in scleroderma, dyspnea is the outstanding symptom. This is doubtless due to disturbance both of ventilation and respiration, and for this there are several anatomic reasons. The tight skin over the thorax limits motion; the diaphragm may also be affected, and contraction of the pleura impedes expansion, as does diffuse fibrosis with its obstructive emphysema. Functional studies have demonstrated increase in residual air. Respiratory difficulty is believed to be of still greater importance. The marked thickening of the alveolar walls, narrowing of the lumina, narrowing and obliteration of blood vessels, are sufficient to interfere with exchange of gas. Where the heart is similarly affected, there is additional reason for cardio-pulmonary insufficiency.[5]

X-ray of the lungs may show a fairly characteristic picture. There is diffuse mottling over the lower lungs, extending well out to the periphery, but thinning toward the middle third and almost absent at the apices. Not infrequently this has been mistaken for tuberculosis or other inflammatory disease. In two cases studied at autopsy by Getzowa, the diagnosis during life had been pulmonary tuberculosis, though skin lesions of scleroderma were present.

Symptoms referable to the digestive tract may be the first to attract attention, or they may be so mild as to escape notice even in cases with extensive pathology. Inability to swallow fluid rapidly, difficulty in swallowing while lying down, and a sensation of fullness behind the sternum or weight on the chest after swallowing are commonly observed when the esophagus is involved. These symptoms are, doubtless, due to weak or absent peristalsis in the lower esophagus, with resulting accumulation of food or

fluid in the relaxed and dilated portion. Propulsion is accomplished largely by gravity and by intrathoracic pressure. When lying down, regurgitation of stomach contents occurs, causing irritation, and it is likely that ulceration observed in the esophagus is a peptic esophagitis, rather than a part of scleroderma.[6]

Though scleroderma is a relatively uncommon disease, the proportion of cases in which it affects structures other than the skin is high. Of eight cases studied at the Hospital Division of the Medical College of Virginia since 1945, evidence of involvement either of the heart, the lungs or the digestive tract appeared in all. In four patients the heart was enlarged, one showed bundle branch block, and one had congestive failure. Four of seven cases in which x-ray was done showed pulmonary fibrosis. Of six in which the esophagus was investigated by x-ray, four showed changes designated as cardiospasm, narrowing of poor muscular tone. Of the two patients in whom the esophagus was negative to x-ray, one complained of difficulty in swallowing, and the other showed delay in the passage of barium through the lower bowel. A review of nine private patients recorded as having had scleroderma indicates that though most of them were not studied with visceral lesions in mind, seven had symptoms or signs pointing to cardiac, pulmonary or digestive involvement, and two showed evidence that all three systems were affected.

Case 1: A woman fifty-five years of age was admitted to the hospital with severe congestive heart failure that had been present for a month and had not responded to digitalis. For three weeks she had experienced difficulty in swallowing with a tendency to regurgitate fluid. Changes in the skin had gradually progressed over a period of four years. Examination revealed the picture of advanced diffuse scleroderma. The heart was enlarged, the rhythm irregular, rate 78 per minute and blood pressure was 110/60. X-ray of the chest showed cardiac enlargement of triangular shape, mottling of the lung bases and probably fluid on the right pleura (Fig. 1). The electrocardiogram showed premature contractions with a tendency to coupling, and low amplitude of all waves (Fig. 2). The esophagus was described as showing delay in emptying and absence of peristaltic waves.

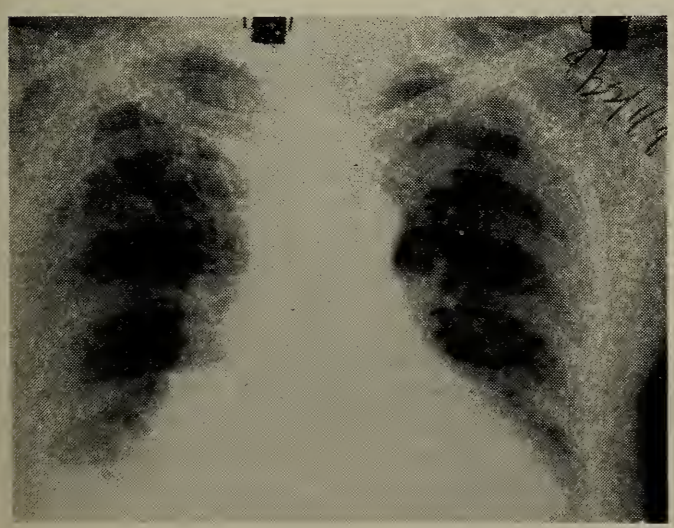

Fig. 1. Enlarged triangular shaped heart. Mottling over lung bases.

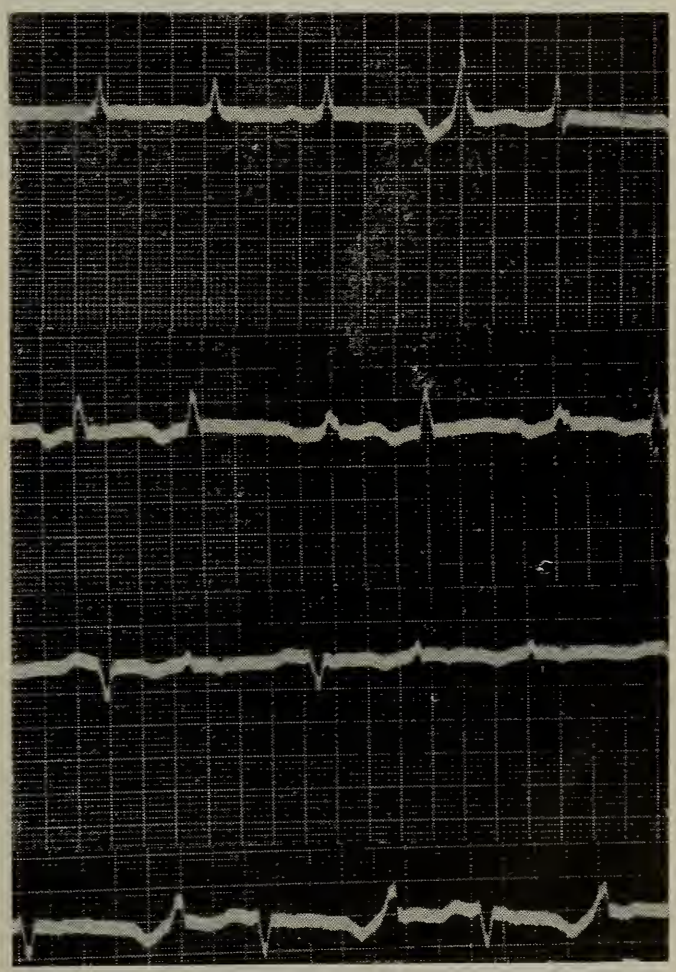

Fig. 2. Low amplitudes. Premature contractions.

Case 2: During an acute respiratory infection that brought him to the hospital, a man, aged sixty-six, showed x-ray changes in the lungs that were interpreted as being inflammatory (Fig. 3). A year later he developed difficulty in swallowing with substernal discomfort and regurgitation. X-ray revealed

Fig. 3. Fibrosis largely confined to lung bases.

delay in the lower esophagus that was thought by the roentgenologist to be due either to pylorospasm or new growth (Fig. 4). It was noted also that the lung changes previously seen had persisted and these were now interpreted as fibrosis. Shortly afterward it was discovered that he was developing changes of scleroderma in his hands and face and it was then realized that the lesions noted on the lungs and esophagus were manifestations of this disease.

Fig. 4. Irregularity of caliber and delay in lower esophagus.

Little can be said in favor of any particular method of treatment in scleroderma, though a variety of measures have been advocated. In 1949 Zarafonetis reported five cases treated with para-aminobenzoic acid with rather striking effects.[7] One of the patients mentioned in this paper has been taking para-aminobenzoic acid since September, 1949. Definite improvement has been observed in the skin and esophagus, and probably also in the lungs. ACTH and Cortizone have been tried, but reports so far indicate that, while apparently producing some symptomatic relief, there is no evidence that they in any way alter the fundamental course of the disease.[8]

SUMMARY

Attention is called to the involvement of structures other than the skin in the disease known as scleroderma. Pathologic changes and clinical manifestations occurring in certain organs are discussed. The frequency of visceral lesions is pointed out and their importance emphasized. In some cases visceral lesions manifest their presence when skin changes are slight or absent and constitute the most serious aspect of the disease.

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Professional Building

Discussion

Dr. Robert C. Crawford, Roanoke: I have enjoyed very much Dr. Hutcheson's clear presentation of a very difficult subject. Concerning a few points further brief discussion might be worth while. I should like to make a few additional remarks about the relationship of Raynaud's disease to scleroderma.

Raynaud's disease may be associated with all three varieties of scleroderma: (1) The diffuse, generalized type; (2) acroscleroderma, and (3) the localized type (morphea). Acroscleroderma is the type which involves only the face, neck, arms, and the upper parts of the chest. It is important to note that the vascular phenomena of Raynaud's disease are much more common and usually much more severe in the acroscleroderma type of the disease. The fact that about 75 per cent of the cases of acroscleroderma are associated with Raynaud's disease deserves emphasis. Raynaud's disease may appear at variable intervals preceding, or simultaneously with, or at varying intervals after the acroscleroderma. It is interesting to remember that Raynaud himself was the first physician to record the vascular manifestations associated with scleroderma.

Scleroderma does not occur in all cases of Raynaud's disease. Scleroderma occasionally develops after the Raynaud's disease has been present or many, many years.

As Dr. Hutcheson mentioned, there is no known common cause for scleroderma and Raynaud's disease, although this particular point has been a subject of medical discussion for many years.

It is important to consider the varying degrees of calcinosis, even severe myositis ossificans, which not infrequently occur with both the diffuse type of scleroderma and with acrosclerosis. As a result of these observations there has been suspected a link between scleroderma and the parathyroid glands. As yet this relationship remains to be clarified. Selye did inject parathyroid extract into rats and produced skin lesions somewhat resembling scleroderma.

In scleroderma, melanin is deposited in the basal cells of the epidermis; pigmentation may therefore occur. This pigmentation may take the form of brown spots in the region of the body involved in scleroderma, or it may take the form of a diffuse bronzing in the involved areas. Depigmented spots may also occur in the scleroderma areas. As a result of the pigmentation in scleroderma, Addison's disease might be considered in the differential diagnosis. It is interesting that occasionally there are present both pigmented spots and depigmented spots in the same sclero-derma skin area; this observation may well be of considerable diagnostic value.

I wish to stress the fact that the symptoms of the visceral lesions in scleroderma may be present for years before any skin lesions become manifest. The same is true, of course, in the case of lupus erythematosis. In these cases of low-grade, chronic lung, heart, and esophageal scleroderma involvement, we shall probably never make the correct diagnosis unless we bear in mind the possibility of scleroderma.

In the esophagus a wide variety of morphologic change may occur. In the early connective-tissue-swelling stage of scleroderma, the lower esophagus could be the site of a filling defect which might well be confused with malignancy. In the later stages, of course, we see the widely-dilated lower third of the esophagus. The symptom of difficulty with the swallowing while lying down strikes me as being a most valuable sign in calling our attention clinically to what might be going on in the esophagus.

"Morphea spots" have a predisposition for the head, neck, and chest. In the early stages the lesions have a characteristic appearance of raised areas of skin, which are erythematous in color, firm to hard, very smooth, and immobile owing to the fact that the involved connective tissue is tightly adherent to underlying structures; the skin cannot be wrinkled in the lesion area. As the scleroderma progresses these skin lesions may become thinned out, resembling parchment paper or the head of a drum, and ivory-white in color. This whitish, thinned-out, parchment-like skin, so tightly adherent to the underlying structures, is responsible for the term "hide-bound skin" being applied to this disease.

Not infrequently, the initial symptom which brings the patient to the doctor is the trouble in a joint or a fibrositis-like complaint being produced in the region of a joint or muscle which is being mechanically interfered with by the hide-bound skin. There is no joint swelling, as in the case of rheumatoid arthritis.

It is mentioned in the literature that the prognosis of scleroderma so frequently differs with regard to the age of the patient. The older the patient before the onset—the poorer the prognosis. It is mentioned in the literature that in children there is, fortunately, a tendency to spontaneous remission.

I wish to thank Dr. Hutcheson for the privilege of discussing his most instructive and timely paper.

Question: How about the treatment?

Dr. V. W. Archer, Charlottesville: Mr. President, Dr. Hutcheson asked me to say a few words regarding the radiologic examination of these patients with scleroderma. I think when you consider the pathology which has been so ably described, you could anticipate the changes you will see on X-ray examination. As to the heart, there is nothing that is pathogonomic in appearance. The same holds true in the lungs. Often radiologists are confronted with an unexplained pulmonary fibrosis, and scleroderma is one of the many things that may give rise to it. I think we must maintain a highly questioning attitude.

As a radiologist, I believe the diagnosis of tuberculosis is bacteriologic and not radiologic. I have said that many, many times, but I cannot lose this opportunity to reiterate it.

So far as the esophagus is concerned, we as radiologists see quite a number of these folks. The changes described

by Dr. Hutcheson are those that you would expect. With the loss of elasticity, replacement, and so on, the peristalsis in the esophagus is markedly interfered with. There may be over-dilatation, or it may go on to stenosis or partial stenosis. The reason for the failure of the esophagus to empty when the patient is lying down is obvious. When you stand the patient up, the food just flows on down. By the way, we like to use a rather heavy barium mixture in these cases—a mixture almost like tooth paste.

The point of delay is important. Any part of the lower esophagus may be involved.

There is nothing that is quite pathogonomic, although we have seen patients in whom the first index of suspicion was raised by the X-ray findings.

There is another type which has not been described by Dr. Hutcheson. Personally I have not seen it, but it has been described by Schatski and also by Templeton. That is the type with a web-like band across the esophagus. Again, there is nothing pathogonomic in the appearance. In any case with difficulty with swallowing, the most careful radiological examination must be made, noting carefully where the peristalsis is heavy and where it is light, noting every change, and thinking of the possibility of scleroderma.

DR. HUTCHESON, closing the discussion: I am grateful to Dr. Crawford and Dr. Archer for their helpful discussion.

As regards treatment, about which someone inquired, I can add little of value. Judging from published reports and from a limited experience, I believe para-aminobenzoic acid to be worthy of trial.

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Incidents of my life. New York, G. P. Putnam's Sons, 1911. Edition limited to 750 copies. Laid in is a typescript copy of letter to Dr. Joseph Price, April 2, 1911.

Contrary to the prevailing opinion of the time, Emmet showed that vesico-vaginal fistula was not the result of the use of forceps, but to a pressure necrosis due to the head remaining in one position too long. The use of ergot was the cause in some cases. He recommended the delivery with forceps when the head was fixed and did not recede at the end of a pain. My copy of the Transactions belonged to Dr. Howard A. Kelly and the salient points of this article are underlined with blue pencil. Emmet considered this to be his greatest contribution to medical science—this and the advocacy of physical development of young girls and sun baths in the treatment of anemia and the "Vapours".

DIAGNOSTIC PROBLEMS OF THE CHEST*

Dean B. Cole, M.D.,
and
L. James Buis, M.D.,
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The typical patient, as first seen in a practice limited to diseases of the chest, complains of one or a combination of cough, shortness of breath, pain, or hemoptysis. In seeking relief he wants to know if he has anything serious, which to him means tuberculosis or cancer, and his conception of what is serious coincides with what we think most important from the aspect of early diagnosis. The Standard Nomenclature of Disease lists 140 diseases of the lungs alone which could account for his symptoms statistically, he will probably be found to have bronchitis, sinusitis, or emphysema. The remote possibilities might include coccidioidomycosis, endemic in the San Joaquin Valley, in Virginia a medical curiosity; sarcoid, a syndrome of disputed etiology and a rarity in the white race; or adenomatous which is of interest chiefly because of similar lung changes found in sheep; but only when the diagnostic resources for tuberculosis and malignancy have been exhausted it is justifiable to accept the common cause or those unusual entities of academic interest.

The diagnosis of active pulmonary tuberculosis continues to rest in an unceasing search for the bacilli. Serial stereoscopic films are of extreme diagnostic aid particularly in following a case. Lordotic films are utilized to better visualize the extreme apex. Repeated sputum examination, using the concentration technique, is the mainstay of finding acid fast bacilli. Isolation by culture has the distinct disadvantage of being time consuming as does guinea pig inoculation. Of the two, the guinea pig inoculation is probably preferable, particularly if two pigs are used and one is given O. T. at the end of four weeks[1]. We do not minimize culture, but in a high percentage of cases, by the time a report on the culture has been received, the nature of the disease has made itself manifest in some other way. Smears of gastric contents too often show nonpathogenic acid fast bacilli. Cultures of gastrics again have the disadvantage of being time consuming and have to be neutralized or cultured immediately upon containing them. Concentrates of secretions obtained by bronchoscopy frequently demonstrate acid fast bacilli when other methods have failed. Pleural fluid, in addition to the usual cell counts and cultures, should have a determination of the sugar content made. It is felt that the finding of 30 mgm. per 100 cc. or less should be diagnostic of tuberculosis, while a concentration above 60 mgm. should eliminate tuberculosis as the cause of the effusion[2]. Tuberculin skin testing is of little, if any, value in the individual case; perhaps with the decrease of positive reactors the test eventually will be of more help.

As in other parts of the body, the diagnosis of malignancy arising in the chest must be made microscopically. Chest films are the best guide as to in whom and how tissue is to be obtained for study. The vast majority of patients who have symptoms indicative of malignancy, such as hemoptysis, cough, wheeze, or recurring lung infections will also have X-ray changes. It is appreciated that of those who do have X-ray findings, only a few will be amenable to or benefit from surgery.

The percentage of positive biopsies obtained by bronchoscopy in carcinoma of the lung is gradually decreasing due to bronchoscopies being done more often and earlier—and a negative bronchoscopy in a subsequently proven carcinoma of the lung is of better prognostic import. The study of endobronchial secretions is in its infancy. The identification of malignant cells is a time consuming process demanding specialized training. In a frank positive where sheets of cells are present, it is diagnostic; otherwise, the absence of abnormal cells or the findings of suspicious cells should have little influence on the decision of exploratory thoracotomy.

Microscopic examination of centrifuged, sectioned pleural fluid caused by malignancy will disclose malignant cells in between 10 and 15% of cases. Clear pleural fluid should also be tested for mucin. It is probably that much of the mucin responsible for the

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 8-11, 1950.

positive test in carcinomatous fluids is derived from carcinoma cells. Bloody or turbid fluid is not suitable for this test[3].

Diagnostic pneumothorax may be of value in helping to delineate a density as seen on X-ray by freeing it from the parietal pleura. Pneumothorax also facilitates bronchoscopic inspection, particularly of the upper lobe orifices. The main problems in carcinoma of the lung are twofold; one, getting the person with symptoms which could be indicative of malignancy to the physician, and, two, thorough investigation by the physician without temporizing. In a recently reported series[4] of 210 cases bronchogenic carcinoma there was a delay of approximately five months between the time of the first symptoms and the first visit to the physician. More significant was the delay between the time the patient presented himself to the physician and the time of making a correct diagnosis. An average of six months was consumed in making an accurate diagnosis in this group. By being skeptical about the virus pneumonia, by not accepting a diagnosis of unresolved pneumonia, by remembering that other than tuberculosis causes hemoptysis, and by utilizing the diagnostic facilities available, we should be able to do better.

The introduction of lipidol in 1922 furnished an excellent diagnostic tool for the detection of bronchiectasis. The ramifications and abnormalities of the bronchial tree can be delineated beyond the reach of the bronchoscope and the two procedures complement each other. Any one of a number of techniques have been employed; we prefer either the use of a cannula by the transglottic route or passing a rubber catheter into the trachea. Anesthesia, position of the patient, and films through different planes are important in localizing dilatations not only in the various lobes but in the individual segments.

Chronic pulmonary decompensation is playing an increasing role in diseases of the chest probably due to the increase in the span of life. In this category are included pulmonary emphysema, chronic bronchial asthma, pulmonary fibrosis and silicosis. It is largely in this connection that physiologic function tests are being investigated. The number and ingenuity of these time consuming highly technical procedures are astounding; unfortunately they are too impractical and expensive to as yet be of material help.

As accurate exvaluation of the degree of pulmonary function impairment[5] requires measurement of: ventilation, residual air, oxygen uptake from the air breathed, and arterial blood studies during both rest and exercise. In a case of pulmonary emphysema, for instance, the clinician can arrive at about the same end point without these tests. Exercise tolerance can be evaluated by exercising the patient and from the history of breathlessness while climbing stairs or walking. Chest films will show the increase of X-ray luminosity with loss of normal lung markings. The heart silhouette is long and slender. On fluoroscopy the diaphragm is depressed, has little if any movement. The absence of edema, liver tenderness and moisture in the lung bases help rule out dyspnea of cardiac origin and as a rule the patient with emphysema rests well lying flat while the cardiac prefers a more upright posture.

The problem in connection with pulmonary decompensation is getting the patient to appreciate his status and live within the limits of lung capacity. The cardiac or the patient with tuberculosis is generally more apprehensive and will better try to restrict his activity. The patient with emphysema or silicosis will continue on his way until a superimposed infection, a spontaneous pneumothorax or right-sided heart strain stops him.

In closing, it would be gratifying to be able to offer hard and fast rules as to what diagnostic procedures are merited on chest patients. We are unable to do so. No single test is all sufficing, and all patients should not be subjected to a battery of tests. It is a matter of individualization.

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801 Professional Building

Discussion

Dr. Kinloch Nelson, Richmond: Certainly nothing significant can be added to Dr. Buis' review of the general problem of diagnosis in pulmonary disease. I think the microphotographs (or photomicrographs, I never have known which way to put that) are particularly beautiful.

The thing that amazes me in hearing such an able talk is the freedom with which we now discuss bronchoscopy, cell study, and pulmonary surgery. It seems like yesterday when no one in Richmond could bronchoscope a patient; today we have a good many who do bronchoscopy and a few who really know how. The study of cells from secretions is fairly recent. I can recall the study of cells from various effusions, often leading to the wrong diagnosis and seldom being of much value until the solution of the problem was pretty obvious anyway. Then came Dr. Papanicolaou's work. Many have familiarized themselves with this technique. Dr. Buis, in particular, has interested himself along this line. Thus we now feel reasonably confident of diagnosis made from such studies. As for surgery, we hear about lobectomy and pneumonectomy every day, whereas only a short time ago these operations could not be done.

I think, as Dr. Buis has emphasized, we have to learn to be bolder in this field. I am gradually becoming so from my experience with the Chest Section at McGuire Veterans Hospital, where I have seen that bronchoscopy must be done on suspicion, and exploration of the chest performed readily and freely as in other areas of the body, and not postponed by the fact that thoracic cage was for so long forbidden surgical ground. We must be more radical, so to speak, in our efforts to determine the true nature of obvious lung disease if we are to rescue any patients with carcinoma of the bronchus.

Dr. Buis mentioned phenomena that are not significant in the gastric juice. I should like to take issue with him on that point because the finding of acid-fast bacilli in any part of a patient's body should be regarded with the greatest suspicion. Recently one of the laboratories was plagued with acid-fast bacilli; almost every sputum and other body fluid was positive. It was then found that the laboratory solutions contained some unknown organisms similar to tubercle bacilli. Despite such occurrences as this it seems to me that, in the presence of acid-fast bacilli, the burden of proof is on him who pronounces them insignificant.

I particularly enjoyed Dr. Buis' paper and think he is to be congratulated on presenting so many phases of pulmonary disease in such a brief discussion.

Drug Given by Mouth in Cancer Patients.

A chemical compound which can be given by mouth is reported by seven New York doctors to be useful in bringing temporary relief to patients suffering from fatal cancer-like diseases of the white blood cells and tissues.

The oral use of triethylene melamine on 58 patients is described by Drs. David A. Karnofsky, J. H. Burchenal, George C. Armistead, Jr., Chester M. Southam, J. L. Bernstein, L. F. Craver, and Cornelius P. Rhoads in the April *Archives of Internal Medicine,* published by the American Medical Association. The doctors are all associated with the Memorial Center for Cancer and Allied Diseases, New York.

Triethylene melamine is a valuable addition to the small group of drugs now known to be effective in relieving pain in these types of disease, according to the doctors. This is due primarily to the fact that it can be given by mouth, releasing the patient from his dependence on a doctor for administration of the drug. All the other drugs have to be injected intravenously, which almost always makes hospitalization necessary.

Clinical trials with the drug are now being widened to include a greater variety of tumerous conditions.

CYSTADENOMAS OF THE PANCREAS

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Cystadenomas of the pancreas are relatively rare. In a review of the literature in 1950, Haukohl and Melamed were able to collect only sixty-three cases. Of the sixty reported up to 1947, Benson and Gordon were able to collect only twenty-eight surgically explored cases of cystadenoma of the pancreas. Complete removal of the tumor was carried out in twenty-one cases. Incomplete excision was performed in three cases; biopsy alone in three cases; and abdominal exploration with subsequent post-mortem examination in one case. There were eight post-operative deaths (31%). Four of those deaths resulted from abdominal exploration, with or without biopsy of the lesion, without any attempt being made to remove the growth. In twenty cases in which the tumor was removed and the outcome is known, there were four post-operative deaths (20%).

Most cases of cystadenoma of the pancreas are found in the middle-age group, the average age of the twenty-eight reported cases being forty-eight years. Eighty-nine per cent of the tumors were found in women.

These tumors are usually in the tail of the pancreas and may be harbored for many years without producing symptoms. Symptoms, in order of usual appearance, are as follows: gradual appearance of a palpable mass in the left hypochondrium, weight loss in spite of a good appetite and adequate food intake, discomfort and pain in the left hypochondrium. Occasionally the first symptoms of a cystadenoma of the pancreas will be those of an acute surgical abdomen initiated by hemorrhage from the tumor.

Cystadenomas of the pancreas are usually well-encapsulated and embedded in pancreatic tissue. Occasionally they are pedunculated and attached to the pancreas by a very narrow stalk. The blood supply is profuse and dilated tortuous veins may be found coursing over the surface of the tumor. Cystadenomas of the pancreas vary in size from a few centimeters to eighteen centimeters (the largest reported). The tumors are composed of multiple cystic cavities containing a dark brown viscid fluid. The spaces are lined by a low cuboidal or columnar epithelium and the stroma is made up of dense fibrous tissue.

REPORT OF A CASE

A forty-one-year-old white housewife had as her chief complaint weight loss and a palpable mass in the left upper quadrant of the abdomen. She first noticed the mass six years prior to examination, at which time it was described as "a small lump about the size of a golf ball". It was particularly noticeable if the patient turned to lie on her right side, at which time it caused a dragging sensation in the left hypochondrium. She was relatively asymptomatic until two months prior to examination when she noticed an increase in size of the mass, associated with an uncomfortable pressure in the left upper abdomen. Over this two-month period she lost sixteen pounds weight in spite of a good appetite. She had no food intolerances but could not eat as much as she normally did because her stomach filled up immediately. There were no other symptoms.

Physical examination was normal with the exception of an easily palpable mass in the left hypochondrium. The tumor was the size of an orange and moved up and down with respiration. It was firm, non-tender, and freely movable.

Erythrocytes numbered 3,650,000 per cubic millimeter; leucocytes 6,000 per cubic millimeter. Hemoglobin estimation was 11 gms. per 100 c.c. (71%). Urinalyses were normal. A serologic test for syphillis was negative. Roentgenograms of the colon following administration of a barium enema revealed normal contours and no evidence of intrinsic disease. Roentgenograms of the stomach following ingestion of a barium meal revealed an extrinsic mass which displaced the fundus upward and anteriorly. An intraveneous pyelogram revealed no evidence of urinary tract pathology.

In view of the above findings, it was reasoned preoperatively that the intra-abdominal lesion was situated in the tail of the pancreas; that the spleen or

a mesenteric cyst might be the site of origin was also considered. Operative intervention was advised.

Under sodium pentothal, oxygen, and nitrous oxide anesthesia, exploratory laparotomy was performed. The abdomen was opened through a long left rectus incision. Primary exploration of the liver, stomach, duodenum, gall bladder, small and large intestine, and pelvic organs was negative. In the left upper quadrant, bulging through the gastrocolic omentum, was a large tumor mass. It displaced the fundus of the stomach upward and the transverse colon downward. The gastrocolic omentum was divided and the tumor exposed. The mass was the size of an orange and was almost spherical. It was grayish-white and consisted of many smooth encapsulated nodulations. Numerous large veins traversed its surface. The mass was adherent posteriorly to the splenic vein and was attached to the tail of the pancreas by a very narrow stalk of normal pancreatic tissue. The tumor was freed from its attachments and removed *in toto* along with a cuff of normal pancreatic tissue. The small stump of the pancreas was closed with interrupted sutures of chromic catgut and fine silk. The spleen was carefully examined for evidence of damage to its blood supply and the abdomen was closed without drainage.

The specimen consisted of a rounded tumor mass measuring 9.5 x 9 x 9 centimeters in diameter (Fig. 1). The cut section was multilocular and the multiple cysts contained a thick reddish-purple fluid. Amylase content of this fluid was reported as 30 units per 100 c.c. In one portion of the specimen there was a cuff of tissue that proved to be grossly and miscroscopically normal pancreatic tissue. Histologic study showed a dense hyalinized connective tissue stroma and a tall columnar mucin-producing epithelium lining the cyst cavities (Figs. 2 and 3). The picture was that of a benign cystadenoma of the pancreas.

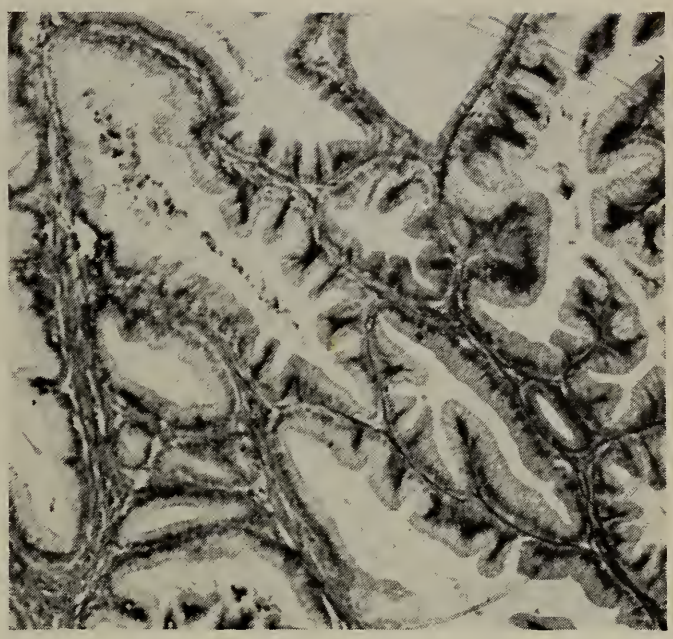

Fig. 2. Microscopic section of cystadenoma of the pancreas, showing papillary growth lined with tall epithelium.

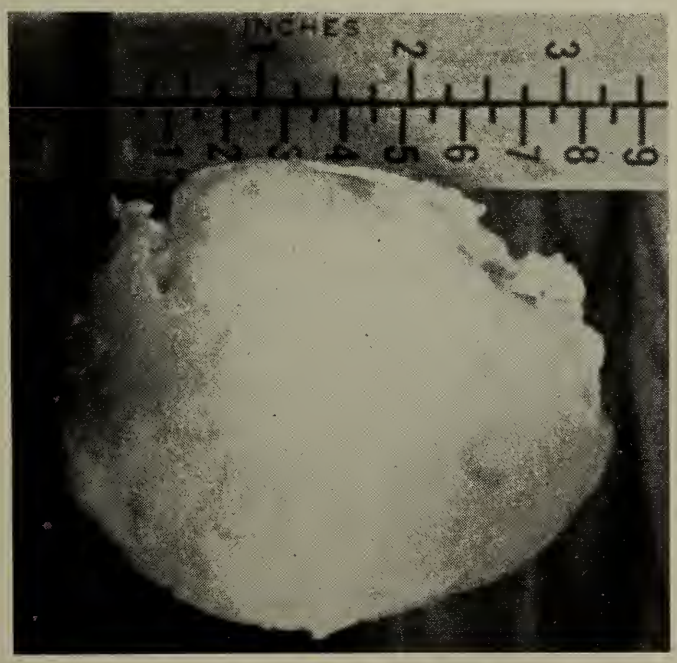

Fig. 1. Specimen consisted of an interloculated cyst which had broken down to form a single large cyst. Cavity was filled with a thick gray fluid.

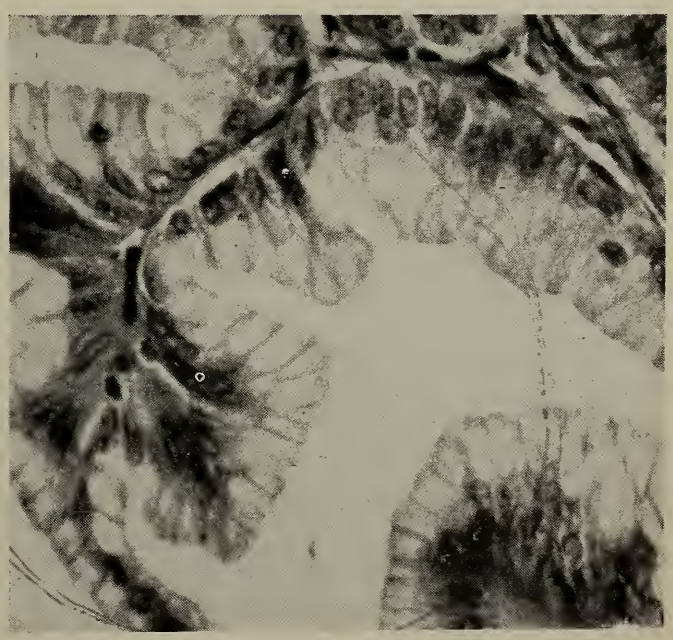

Fig. 3. Microscopic section of cystadenoma of the pancreas, showing papillary growth lined with tall epithelium. High power.

The immediate post-operative course was uneventful and the patient went on to complete recovery. At the present time, three months after operation, she feels fine and is gaining weight. Abdominal examination is normal. A fasting blood sugar is 101 mgm. per cent. A pre-operative blood sugar was not taken.

SUMMARY

A surgically treated cystadenoma of the pancreas is reported and the literature is briefly reviewed.

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Haukohl, R. S., and Melamed, A.: *Am. J. Roentg.* **63**: 234, 1950.

310 West York Street

Age of 146 Realizable Objective.

In the symposium on Aging, held at the annual meeting of the American Medical Association in June, Dr. Theodore G. Klumpp, president of Winthrop-Stearns Inc., and a member of the New York City Mayor's Advisory Committee on the Aged and other civic and professional groups dealing with geriatrics, presided.

Introducing the problem of the aging, Dr. Klumpp explained that the process begins early in life, actually as soon as an individual stops growing. Some day, he said, even pediatricians may well worry about the problem and perhaps actually play a major role.

"There are two reasons to be optimistic," he continued. "It is possible for us to strike down, one by one, the diseases that ride in on the coat-tails of old age. Second, much more will be done to extend the average life span beyond what it is today.

"Longevity stunts and record achievements of old age will be much more common. The well established record of individuals living to 146 years proves that it is possible for the human machine to be so constructed as to last that long. But we also see individuals in clinics who are functionally and anatomically through at 45.

"From the moment of conception, our bodes live by reason of chemical processes. The job, therefore, is to find out how the chemistry of Christian Jacob Dragenberg, who lived to 146, differs from that of John Jones, buried at 42, all of whose organs showed the effects of extreme arteriosclerosis."

New "retirement separation" programs undertaken by industry, Mr. Scheid said, range from that of the Mohawk Development Service, an independent concern which consists of retired employees of a large electric corporation, to the "step-down" plan of the Wrigley Corporation, in which aging employees are granted successively increasing leaves of absence for a gradual adjustment to the retired status. At the Ithaca Gun Company, N.Y., on the other hand, employees are permitted to continue as long as they are qualified.

Mr. Scheid submitted a proposal for "Senior Achievement" programs in each community, to resemble the "Junior Achievement" movement which organizes youngsters to produce goods and services through free private enterprise. Under the "senior" type, retired employees would be similarly organized. Progressive business concerns would appropriate funds to qualified civic groups, to foster the program.

PUBLIC HEALTH

The Bureau of Communicable Disease Control
Virginia State Department of Health

Growing Incidence of Malaria Among Returning Korean Veterans

The following extracts from communications from Dr. R. A. Vonderlehr, Medical Director in Charge of The Communicable Disease Center in Atlanta, Georgia, are called to the attention of Virginia physicians:

"Significant numbers of Armed Forces personnel from Korea are experiencing attacks of vivax malaria after their return to this country and while they are not under military supervision, i.e., while they are on leave or after separation. These individuals will undoubtedly be found in each State. Presumably these infections were acquired last fall though in some instances it is probable that symptoms were not manifested until this spring due to prolonged incubation or the effects of suppressive medication.

"Therefore, the practicing physicians in your State should be warned (perhaps through your State medical journal) to suspect malaria among patients presenting suggestive signs and symptoms, and who have been in Korea during the last year. Definitive diagnosis should be based on the demonstration of malaria parasites in laboratories approved for this procedure by your State health department. The chances of discovering parasites are much better in thick blood films than in thin ones. Where blood findings are positive, controversial, or uncertain, the slides should be sent to the National Depository for Malaria Slides, Parasitology Laboratories, Communicable Disease Center, P.O. Box 185, Chamblee, Georgia, for further examination by non-governmental consultants.

"In accordance with the recommendations of the National Malaria Society, the Communicable Disease Center has been selected as the National Depository for Positive Malaria Slides.

"It is not the purpose of this depository to perform routine examinations of malaria smears. Consequently, the State health laboratories are requested not to send slides believed to be negative unless the practitioners insist on their examination by a referee.

"Reports confirming positive slides or other consultative reports on malaria slides will be sent in triplicate to the State health department so that one copy may be kept by the State laboratory director and the other two forwarded to the submitting doctor and the local health department.

"The need for confirmation by the State laboratory of blood films taken from each suspected case of malaria should be emphasized.

"Treatment with modern antimalarials now available (chloroquine, pentaquine, chlorguanide, etc.) will alleviate symptoms promptly. Certain of the cases receiving complete courses of these drugs will remain free from malaria, but it is probable that others will relapse after weeks or months. Patients should be told of this possibility and advised to seek medical treatment again if symptoms recur. The likelihood of clinical reactivation becomes less with the passage of time; relapses are rare after the second or third attack.

"To prevent the spread of malaria from these individuals, cases should be reported to local authorities promptly so that residual insecticides may be applied to houses within a mile of parasite-positive persons if malaria vectors, *Anopheles quadrimaculatus* or *A. freeborni,* are known or found to be prevalent in the area.

"If competent diagnosis, adequate treatment, prompt reporting, and preventive insecticiding are achieved, it is believed that the present freedom of this country from endemic malaria will be maintained.

"It is hoped that you will bring this communication to the attention of the medical practitioners and health officers in your State."

Monthly Morbidity Report of the Bureau of Communicable Disease Control

	July 1951	July 1950	Jan.-July 1951	Jan.-July 1950
Brucellosis	9	4	42	35
Diarrhea and Dysentery	271	586	1,347	2,176
Diphtheria	4	4	72	97
Measles	734	268	13,525	2,392
Meningitis (epidemic)	5	7	82	85
Poliomyelitis	20	217	41	238
Rocky Mountain spotted fever	15	20	35	37
Scarlet fever	18	31	687	557
Tularemia	3	3	24	21
Typhoid and paratyphoid	7	12	30	41

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.
Commissioner, Department of Mental Hygiene and Hospitals.

An Experiment in Traveling Mental Hygiene Clinics*

Lynchburg Guidance Center is an all purpose mental hygiene clinic offering psychiatric help on an out-patient basis to an area including about 100,000 people. Half of these live in the city, and the others are scattered in two nearby counties. Anxiety, treatability, and availability have been thought to be the three requirements to be met before starting any treatment program. The anxiety may be the patient's or his parents', but someone within the family constellation must care. The problems he presents must be treatable at an out-patient clinic. The school may be helped to adjust to the mentally defective or organically damaged individual, but these problems are properly ones of education for the teachers rather than out-patient therapy for the child. When the difficulties are emotional ones, however, and the patient and his family are psychologically accessible to treatment, the services of a mental hygiene clinic may be expected to help the family members achieve adjustments which are more satisfying to themselves and to the community. Finally, the family must live near enough to the Center to come for appointments.

This past year, the Lynchburg Guidance Center attempted to bring psychiatric service to some of these people who have been regarded as living too far from the Center to receive care. Studying the three requirements needed before service is attempted, the clinic team found anxiety present in the form of requests from parent-teacher groups, county health departments, and various lay groups. County people were aware of the need for mental hygiene service in their rural communities and were willing to work hard to find any possible way to get it provided for them. The ability of the county people to gauge the treatability of its individual cases was uncertain, however. Geographic availability was made possible by a plan in which the Guidance Center staff agreed to go to the counties, Amherst and Campbell, for one day of work in each every other month.

*Article prepared by Faith F. Gordon, M.D., Psychiatrist-Director; Harriet K. MacConnell, Psychologist; and Catherine Nau, Psychiatric Social Worker, of the Lynchburg Guidance Center.

Offices in the Health Centers of these two counties were made available to the psychiatric social worker, the psychologist, and the psychiatrist. Appointments for patients were made through school supervisors and public health workers. Patients were given hour appointments with the psychologist and psychiatrist, while their parents or other interested adults consulted with the social worker. A limit of six patients was scheduled each day. At the end of the examinations the clinic team discussed findings and made plans for disposition of the cases. In some instances conferences were held with the referring sources; in others, the patients were given appointments at the Guidance Center offices in Lynchburg for more complete examinations or to begin weekly therapy sessions.

The following table provides a statistical summary of the county cases during this experimental year.

AMHERST AND CAMPBELL COUNTIES
July 1, 1950, through June 30, 1951

	AMHERST	CAMPBELL	TOTAL
Number of cases opened	24	29	53
Percentage of total clinic cases	16.7%	20.1%	36.8%
Male	15	15	30
Female	9	14	23
White	11	24	35
Negro	13	5	18
Ages	6–31	5–21	5–31
Superior Intelligence	2	1	3
Adequate Intelligence	8	13	21
Borderline or mentally deficient	13	13	26
Undetermined Intelligence	1	2	3

REASONS FOR REFFERAL

School retardation, reading problems, mental deficiency, advice on school planning, speech problems, school maladjustment, poor social adjustment, adolescent maladjustment, spoiled child, overprotective parent, nervous mannerisms, nail biting, enuresis, fears, crying, timidity, insomnia, tantrums, hypersensitivity, hyperactivity, aggressive behavior, stealing, sex problems, nausea and other physical symptoms without organic cause.

TYPES OF SERVICE GIVEN

Psychotherapy, parent counseling, discussion with

relatives, advice to school nurses, interpretation to teachers and supervisors of child's capacity and needs, consultation with DPW, referral back to family doctor.

The staff has found certain disadvantages to the procedure followed during the year:

1. County cases have had to wait until a designated day at two months intervals for a program that included history taking, psychological and psychiatric examinations, staffing of combined findings, and the making of recommendations for six cases in the space of eight hours time. Delay in starting work on urgent cases may be detrimental to them, and problems of coordinating appointments cannot always be resolved.

2. Ordinarily when a patient is studied, appointments are scheduled so as to permit spending as much time as is needed for each case. In the county, a time schedule regulates clinic planning. In addition, it is impossible for the staff to transport equipment of sufficient variety to meet all needs. These factors often resulted in superficial appraisal which fell below professional standards.

3. In spite of scheduled county visits some physicians prefer to send their cases directly to the Lynchburg Guidance Center offices. County residents are accustomed to making trips to the city for specialized health care, and bring their children to the Guidance Center as naturally as they would bring them to the city for eye examinations or tonsillectomies.

4. The conclusion has been reached that geographical accessibility is not a major issue. In most cases, families come as easily the greater distance to the city as they would to the local Health Center building. Understanding of mental hygiene services in general is the real lack in rural areas.

The concept of personality disorder or emotional maladjustment may be new and bewildering to a family. Equally disturbing may be the idea that unconscious jealousies and hatreds within a family group are to be expected, and that they may be the force behind the final picture of seemingly unrelated anxieties or mental blockings and confusions. The family may gain comfort from the knowledge that all these difficulties are highly respectable and treatable.

The local speaker who is informed is often the best person to allay fears and erase the stigma from mental and emotional disorders. The professional person tends to be less convincing since he comes as a stranger. If a better understanding of our common problems as a human family could be reached through education of local lay groups by local lay speakers, the referring of treatable cases would solve itself.

In reviewing the work at the end of the year the Lynchburg Guidance Center added a fourth to the three requirements needed before starting any treatment program. There must be anxiety, treatability, and availability, and also there must be community understanding of what the service has to offer. A Guidance Center staff expects that teaching and interpretation of the work is part of its job, as well as adapting its own point of approach to the needs of the local community. A one-day traveling clinic falls short because it must operate on the assumption that its work for that one day must be limited.

New Books.

Below are listed some of the newer books in the Tompkins-McCaw Library of the Medical College of Virginia, Richmond. These may be borrowed by our readers under usual library rules.

Annual review of medicine. Vol. 2, 1951.

Collen—A new concept regarding the genesis of T, Ta, U waves, and ST segments. The myokinetic theory.

Giles—Begin now—to enjoy tomorrow.

Ham—A syllabus of laboratory examinations in clinical diagnosis.

Sherman and Lanford—Essentials of nutrition. 2nd ed.

Sigerist—A history of medicine. Vol. 1. Primitive and archaic medicine.

Vitamins and hormones. Advances in research and applications. Vol. 3, 1950.

Waters—Chloroform; a study after one hundred years.

CLINICAL PATHOLOGICAL CONFERENCE

For the Medical Society of Virginia Meeting
Wednesday, October 10, 1951

From Case Records of the Medical College of Virginia Hospital.

To be discussed by

EDWIN P. LEHMAN, M.D.,
Professor of Surgery,
University of Virginia.

Case 1: J. V. (Case #B-101-403), a 76 year old white male, was admitted to the Medical College of Virginia Hospital on December 23, 1950. He had been in relative good health until approximately three months before admission when he developed a "deep cold" with cough, pain in the right chest, fever and chills. There was also some right upper quadrant pain. Treatment for "walking pneumonia and pleurisy" by his local physician resulted in improvement in the pulmonary symptoms but anorexia persisted with weight loss and weakness to the point where the patient was unable to get about. On the night before admission, the patient suddenly passed approximately a pint of bright red blood by rectum, vomited some reddish material and became very weak and dizzy. On the following morning he was admitted to the Medical College Hospital.

The patient had had some nausea since the beginning of his present illness but no vomiting until the night before admission. There had been no constipation, diarrhea, or rectal bleeding previously. Since the onset of the present illness he had had vague lower abdominal pains, not severe and not related to food intake or defecation. The patient had been a blacksmith and had worked up until approximately three years prior to admission. The family history was non-contributory.

Physical Examination: Temperature 100°F., respirations 22, pulse 92, and blood pressure 120/70.

The patient lay quitely in bed, was pale and weak and somewhat confused regarding recent events. There were scattered ecchymoses over both wrists. The chest was emphysematous but otherwise essentially negative. The heart was not enlarged but there was a prominent, high pitched, systolic mummur over the entire precordium, loudest at the apex and transmitted towards the axilla. There was some tenderness and a sense of fullness to the examining hand in the epigastrium and right upper quadrant of the abdomen. There was no distention and no organs or definite masses could be felt. Rectal examination was negative except for the presence of dark red blood mixed with feces. There was a two plus edema of the feet and the pedal pulses were not palpable.

Laboratory Data: Urine—straw, acid, specific gravity 1.018, albumin, sugar and acetone negative, occasional granular and hyaline casts per high power field. Hemoglobin 7.2 grams, red blood count 2,400,000, white blood count 13,100 with 90 polys., lymphs. 9, and mono. 1. STS negative. Chest X-ray showed a normal size and shaped heart with minimal pulmonary fibrosis and slight elevation of the right dome of the diaphragm. NPN was 29 mgm.%. Fasting blood sugar 136 mgm.%.

Following admission the patient received several whole blood transfusions and general supportive measures. He continued to pass small amounts of blood in his stools for 2 or 3 days but this subsided. Proctoscopic examination was essentially negative and a barium enema showed multiple diverticulae of the sigmoid colon with no obstruction. The patient improved generally but continued to run a low grade fever varying daily from normal to 101°F. orally. Aureomycin 0.5 grams every 6 hours was begun on December 30th.

Further laboratory studies were as follows: Total proteins 6.3 gm.% with albumin 1.7 and globulin 4.6 gm.% respectively (checked); Bence-Jones proteins not demonstrable and bone x-rays were negative. Bleeding and clotting time as well as a platelet count were all normal. Stools were negative for ova and parasites. Stool cultures yielded Proteus and E. Coli. Several blood cultures were negative and repeated sputum examinations showed no acid fast bacilli. Serum bilirubin 0.4 mgm.% total, BSP 13.9% retention in 45 minutes, cephalin flocculation 1+, alkaline phosphatase 4.8 B.U.; total

cholesterol 100 mgm.%, free 48 and esters 52 mgm.% respectively. Gastro-intestinal x-rays showed an irregular, irritable duodenal bulb but no niche was demonstrated.

On January 3rd a fluoroscopy of the chest showed an elevated and almost immobile right diaphragm and some pleural fluid. Three days later there was a definite effusion in the right pleural space and at the same time it was noted that there was some edema of the abdominal wall with questionable ascites. Thoracentesis in the 8th right interspace posteriorly yielded 500 cc. of cloudy, yellow fluid with specific gravity of 1.016, 9.5 grams % protein, 1,510 cells, 95% polys. Direct smears and cultures showed occasional acid fast bacilli. Accordingly the patient was started on streptomycin and PAS. The day following institution of this therapy the patient began vomiting and having diarrhea. Intermittent vomiting continued though the PAS was discontinued, and diarrhea 2-4 stools a day persisted. Blood was frequently present in the stools in varying amounts.

On January 15th thoracentesis in the 9th right interspace posteriorly yielded 10 cc. grossly purulent, thick, malodorous fluid. Bacteriologic studies revealed Proteus Vulgaris and E. Coli overgrowing streptococci. Another needle inserted in the same interspace but more medially encountered fluid similar to that first obtained and acid-fast bacilli were again demonstrated in this fluid. Films made following introduction of 30cc. of air into the area from which thick pus was obtained showed no air under a high immobile diaphragm. On January 18th lipiodol was injected into this area and films then showed a puddle of dye in the right subphrenic area with extension of dye downward for about six inches then passing into a loop of small intestine.

Aureomycin was discontinued, streptomycin continued and crysticillin 300,000 units every 6 hours was begun. The patient showed no improvement and went slowly downhill. Gall bladder x-rays with oral and I. V. dye failed to show any function. Proctoscopy was repeated—many bleeding points were seen in the rectal mucosa and swabs from one of the areas showed proglottids, hydatid sand and egg typical of echinococcus tape worm.

It finally became necessary to start Wangensteen suction and maintain the patient entirely on intravenous feedings. He continued to run an irregular fever, became weaker, the abdomen became more distended and the patient finally expired on January 23rd, one month following admission. Blood chemistries on day before death showed Na. 138 Meq./L., K. 4.1 Meq./L., NPN 78 mgm.%, Total proteins 5.0 gms.%, albumin 1.6 and globulin 3.4 gms.%

*The clinical and pathological discussions will appear in the December issue of the Monthly.

From the Case Records of the University of Virginia Hospital.

To be discussed by

I. A. Bigger, M.D.,
Professor of Surgery,
Medical College of Virginia.

Case 2: This white male, an inmate on a home for aged, was first seen in the Dermatological Outpatient Department in 1946 at the age of 76 complaining of a sore under the left eye of one year's duration. This was found on biopsy to be a basal cell carcinoma and was treated with 6,000 roentgen units of X-ray in six divided doses. No further study of the patient was done at this time. The lesion promptly disappeared and did not recur.

He was admitted to the hospital on September 22, 1950, aged 81, with the complaint of acute abdominal pain. He was apparently perfectly clear mentally and stated that the other inhabitants of the district home did not like him very well because he reads the Bible. One of them told him that he would not get well if he came to the hospital but he was determined to prove that prediction wrong. He stated that four days previously he had had a sudden onset of pain in the right lower quadrant which was sharp in character and did not radiate. For the first two days he was nauseated and vomited everything taken. He had regular normal bowel movements each day until the day of admission when the stool was somewhat watery but contained no blood. On the morning of admission the pain became more generalized but was still much more marked in the right lower

quadrant. He had been confined to bed since the onset.

The patient has had an umbilical hernia for 15 to 20 years and a right inguinal hernia for 20 to 25 years. He stated that he had had "heart trouble" for several years and complained of exertional dyspnea and two-pillow orthopnea. He had one episode of hematuria 4-5 years ago, and at present has nocturia from 3-4 times. There is no other significant note on the past history, which was obtained with some difficulty on account of the patient's discomfort.

Physical examination revealed an enormously obese, well-preserved white man, looking less than his 81 years. His weight was estimated at over 300 pounds. The pulse was 68 and of good quality and the blood pressure was 120/78. The temperature measured by rectum was 102°. He was complaining bitterly of severe abdominal pain, most marked in the right lower quadrant. Obesity made the physical examination of the chest somewhat inconclusive. It was thought that a few moist rales were heard in the right base. Examination of the heart was most unsatisfactory. The abdomen was pendulous with an irreducible umbilical hernia and an irreducible right inguinal hernia, neither of which was tense or tender. There were no other asymmetries of the abdomen and no visible peristalsis. There was generalized tenderness all over the abdomen with marked rebound tenderness. Both of these were more pronounced in the right lower quadrant where there was a mild degree of muscle spasm. Rectal examination was non-contributory. There was no tenderness and no masses were felt. The prostate was enlarged 2 to 3 times but was smooth and elastic.

Laboratory studies on the day of admission were as follows:—Urine, acid; albumin 1 plus; no sugar; no acetone; 40 to 50 white cells per high power field and occasional red cells. There were coarse granular and hyaline casts. The specific gravity was not recorded on account of the small volume of the specimen. The serology, reported later, was negative. The blood showed 5,300,000 erythrocytes with 15.5 grams of hemoglobin (110%). The white cell count was 24,000 and the differential showed 15 band cells, 72 staff cells, 5 large lymphocytes, 5 small lymphocytes, 1 transitional cell, 1 eosinophil and 1 basophil. The estimated number of platelets was normal. An X-ray film of the abdomen showed no evidence of obstruction either in the flat or upright posture.

The patient was given 0.6 mg. of digitoxin immediately upon the advice of the medical consultant, although there was no clinical evidence of heart failure; and 1,000 cc. of 5% glucose solution in normal saline intravenously. He was taken promptly to the operating room where a laparotomy was performed under endotracheal ether anesthesia supplemented by tubocurarine. Five hundred cc. of blood were administered during the operation. (The report of the findings at operation will be presented by the pathologist.)

The patient returned from the operating room in good condition and for three days had a normal postoperative course with a temperature and pulse curve indicating normal convalescence. The highest temperature was on the day after operation, 102.2° rectal. On the day of death (the third postoperative day) the highest temperature was 101.2° rectal. During this time the pulse was averaging 90. During the postoperative phase he was given from 3,000 to 4,500 cc. of intravenous and hypodermic fluids, including aminosol and glucose, to which were added adequate vitamins, and on the evening of the day after operation he was allowed a liquid diet which he tolerated well. His urine output was low on the first two days after operation but reached 1,500 cc. on the day of his death. He sat up on the side of the bed on the first postoperative day and was up increasingly until he died.

Although it was difficult to obtain blood specimens on account of obesity, the following *postoperative studies* were carried out on the morning of his death: Blood protein 7 gms. per 100 cc., urea 140 mgs. per 100 cc., chlorides 540 mg. per 100 cc., plasma carbon-dioxide 32.2 volumes percent. Three postoperative urine specimens were similar to the preoperative specimen and showed specific gravity levels ranging from 1.012 to 1.020. The high blood urea was ascribed to early inadequate hydration; the latter was apparently satisfactory on the day of death after the specimen was obtained.

The patient was given penicillin and streptomycin and digitalization was continued.

On the evening of September 25th, the end of the third postoperative day, the patient had been sitting in a chair. Shortly after he was put to bed he had sudden respiratory difficulty and became cyanotic and

apprehensive. The pulse was unobtainable and the systolic blood pressure was measured with difficulty at somewhere around 70 to 80 mm. Hg. Chest examination was most unsatisfactory on account of obesity but no normal findings were made out. The patient was immediately given oxygen, 0.5 gms. of aminophylline and 130 mg. of papaverine. The patient's color improved slightly after the administration of oxygen but his respiration continued to become more difficult and labored. His blood pressure never recovered its earlier level. He went steadily downhill and died about an hour and a half after the sharp change in his condition.

*The clinical and pathological discussions will appear in the December issue of the Monthly.

Diet Rather Than Exercise if You Want to Lose Weight.

If you want to lose weight, the advice of a Springfield (Mass.) physician is that you try dieting instead of exercise. In his opinion, dieting is "much safer and easier."

Dr. Max Millman, in *Today's Health,* pointed out that our bodies burn up comparatively few calories by exercise. In walking three miles, we burn up the energy contained in a couple of glasses of milk or a five-cent candy bar.

"To lose a pound of body fat by dieting is simple," said Dr. Millman, but to lose the same pound by physical activity you would have to saw wood for 10½ hours, lay 14,731 bricks, do carpentry for 30 hours, shovel 114,000 pounds of sand, run 43 miles or wrestle 5½ hours.

Even then, exercising does not insure weight loss, he said. "Exercise without dieting not infrequently causes a gain rather than a loss in weight. Physical activity increases the appetite and often leads to a calorie intake far greater than that expended during the exercise."

The most serious objection Dr. Millman has to physical exercise as a reducing agent is the harm that may result from "injudicious and indiscriminate use." He said this is particularly true where fat people of middle age are concerned. Even when he is resting, the fat person's heart is working overtime. Straining the heart further with vigorous exercise could be dangerous.

"The greatest service that physical exercise can do in obesity is to improve muscle tone," he said. And it should be undertaken only after an appreciable amount of weight has been lost and the heart has been relieved of some of its strain. He suggested walking, swimming and golf as three of the milder forms of exercise the fat person should indulge in first, gradually progressing to more vigorous forms of activity.

Presidents of the Medical Society of Virginia

President	Year of Meeting
*Dr. James McClurg, Richmond	1821
*Dr. William Foushee, Richmond	1822
*Dr. William Foushee, Richmond	1823
*Dr. James Henderson, Richmond	1824
Meetings Discontinued.	
*Dr. Robert William Haxall, Richmond	1841
*Dr. Robert William Haxall, Richmond	1842
*Dr. Frederick Marx, Richmond	1843
*Dr. Thomas Nelson, Richmond	1844
*Dr. William A. Patteson, Richmond	1845
*Dr. William A. Patteson, Richmond	1846
*Dr. John A. Cunningham, Richmond	1847
*Dr. William A. Patteson, Richmond	1848
	1849
*Dr. Robert William Haxall, Richmond	1850
*Dr. Beverley R. Wellford, Fredericksburg	1851
*Dr. James Beale, Richmond	1852
*Dr. Thomas P. Atkinson, Danville	1853
*Dr. Carter P. Johnson, Richmond	1854
*Dr. H. C. Worsham, Dinwiddie	1855
*Dr. H. C. Worsham, Dinwiddie	1856
*Dr. James Bolton, Richmond	1857
*Dr. Levin S. Joynes, Richmond	1858
Meetings Discontinued	
*Dr. R. S. Payne, Lynchburg	1870
*Dr. R. S. Payne, Lynchburg	1871
*Dr. A. M. Fauntleroy, Staunton	1872
*Dr. Harvey Black, Blacksburg	1873
*Dr. A. G. Tebault, London Bridge	1874
*Dr. S. C. Gleaves, Wytheville	1875
*Dr. F. D. Cunningham, Richmond	1876
*Dr. J. L. Cabell, University	1877
*Dr. J. H. Claiborne, Petersburg	1878
*Dr. L. S. Joynes, Richmond	1879
*Dr. Henry Latham, Lynchburg	1880
*Dr. Hunter McGuire, Richmond	1881
*Dr. G. W. Semple, Hampton	1882
*Dr. W. D. Cooper, Morrisville	1883
*Dr. J. E. Chancellor, Charlottesville	1884
*Dr. S. K. Jackson, Norfolk	1885
*Dr. Rawley W. Martin, Chatham	1886
*Dr. Bedford Brown, Alexandria	1887
*Dr. Benjamin Blackford, Lynchburg	1888
*Dr. E. W. Row, Orange C. H.	1889
*Dr. Oscar Wiley, Salem	1890
*Dr. W. W. Parker, Richmond	1891
*Dr. H. Grey Latham, Lynchburg	1892
*Dr. Herbert M. Nash, Norfolk	1893
*Dr. Wm. P. McGuire, Winchester	1894
*Dr. Robt. J. Preston, Abingdon	1895
*Dr. Wm. L. Robinson, Danville	1896
*Dr. Geo. Ben Johnston, Richmond	1897
*Dr. Lewis E. Harvie, Danville	1898
*Dr. Jacob Michaux, Richmond	1899
*Dr. Hugh T. Nelson, Charlottesville	1900
*Dr. J. R. Gildersleeve, Tazewell	1901
*Dr. R. S. Martin, Stuart	1902
*Dr. J. N. Upshur, Richmond	1903
*Dr. Joseph A. Gale, Roanoke	1904
*Dr. Wm. S. Christian, Urbanna	1905
Dr. Lomax Gwathmey, Norfolk	1906
*Dr. Paul B. Barringer, Charlottesville	1907
*Dr. Wm. F. Drewry, Petersburg	1908
*Dr. Stuart McGuire, Richmond	1909
*Dr. E. T. Brady, Abingdon	1910
*Dr. O. C. Wright, Jarratt	1911
*Dr. Hugh M. Taylor, Richmond	1912
*Dr. Southgate Leigh, Norfolk	1913
*Dr. Stephen Harnsberger, Catlett	1914
*Dr. Samuel Lile, Lynchburg	1915
*Dr. Joseph A. White, Richmond	1916
*Dr. Geo. A. Stover, South Boston	1917
*Dr. Ennion G. Williams, Richmond	1918†
*Dr. Ennion G. Williams, Richmond	1919
*Dr. Paulus A. Irving, Farmville	1920
*Dr. Alfred L. Gray, Richmond	1921
*Dr. E. C. S. Taliaferro, Norfolk	1922
*Dr. John Staige Davis, University	1923
*Dr. W. W. Chaffin, Pulaski	1924
*Dr. Hunter H. McGuire, Winchester	1925
Dr. W. L. Harris, Norfolk	1926
*Dr. J. Shelton Horsley, Richmond	1927
*Dr. J. W. Preston, Roanoke	1928
*Dr. J. Bolling Jones, Petersburg	1929
*Dr. Charles R. Grandy, Norfolk	1930
*Dr. J. Allison Hodges, Richmond	1931
*Dr. I. C. Harrison, Danville	1932
*Dr. J. C. Flippin, University	1933
Dr. R. D. Bates, Newtown	1934
*Dr. F. H. Smith, Abingdon	1935
Dr. P. St. L. Moncure, Norfolk	1936
Dr. J. M. Hutcheson, Richmond	1937
*Dr. G. F. Simpson, Purcellville	1938
Dr. A. F. Robertson, Jr., Staunton	1939
*Dr. H. H. Trout, Roanoke	1940
Dr. W. B. Martin, Norfolk	1941
*Dr. Roshier W. Miller, Richmond	1942
Dr. J. M. Emmett, Clifton Forge	1943
*Dr. C. B. Bowyer, Stonega	1944
Dr. H. B. Mulholland, Charlottesville	1945
*Dr. Julian L. Rawls, Norfolk	1946
Dr. W. L. Powell, Roanoke	1947
Dr. Guy R. Fisher, Staunton	1948
Dr. M. Pierce Rucker, Richmond	1949
Dr. W. C. Caudill, Pearisburg	1950
Dr. C. Lydon Harrell, Norfolk	1951

*Deceased.

†Owing to influenza epidemic during World War I, the council met in 1918, and Dr. Williams was continued as President.

PRESIDENT'S MESSAGE

WHEN this issue of the Journal comes off the press, the annual meeting of the state Medical Society will be just one month away. Dates of meeting, October 7th to the 10th inclusive. Place of meeting, Cavalier Hotel, Virginia Beach.

Make your arrangements immediately to attend this meeting and bring your wives. We wish for a large attendance. October is the prettiest month of the year to spend at Virginia Beach. You may not be able to get reservations at the convention hotel, but there are enough hotels at Virginia Beach to take care of all those who wish to attend. If you are not able to secure accommodations, please contact Dr. Walter P. Adams, Norfolk, Virginia, chairman of the Committee of Arrangements.

An excellent scientific program has been prepared by the program committee. We have three outstanding guest speakers. Monday afternoon, Dr. Winthrop M. Phelps of Baltimore will discuss The General Management of the Cerebral Palsy Problem. Nearly everyone is interested in this problem and Orthopedics know Dr. Phelps. On Monday night of October 8th, our guest speaker will be Representative Hugh D. Scott, Jr. of Philadelphia. Mr. Scott is a very able speaker and one familiar with medical problems as of today. He was a member of a committee sent to Europe a little over two years ago to get an insight of socialized medicine first hand. His address should prove very interesting to all.

Tuesday afternoon Dr. John E. Howard, the associate professor of medicine of Johns Hopkins University of Baltimore, will discuss The Diagnosis and Treatment of Various Types of Spontaneous Hypoglycemia. He should attract a good crowd. The program appears to be well balanced and full of interest. Please make your plans to be present.

To the Members of the Council: We meet at 4 P. M., Sunday, October 7th. Please be on hand. To the House of Delegates: We have a dinner meeting at 7 o'clock. The regular program starts at 8 P. M., October 7th. Please make your plans to be present and on time. There are many things of vital interest to the society to be discussed.

C. L. Harrell, M.D.,
President

PROGRAM

(PRELIMINARY)

104TH MEETING

THE MEDICAL SOCIETY OF VIRGINIA

THE CAVALIER HOTEL

VIRGINIA BEACH

OCTOBER 7, 8, 9 AND 10, 1951

Sunday, October 7
4:00 P.M.
Council

7:00 P.M.
House of Delegates—Dinner Meeting

Monday, October 8
9:00 A.M.

Section A—Panorama Room

George S. Hurt, M.D., First Vice-President, Presiding

9:00 A.M.—REHABILITATION OF THE TUBERCULOUS PATIENT (*Lantern Slides*)—B. B. Bagby, Jr., M.D., and A. Ray Dawson, M.D., Richmond

This paper is a discussion of Rehabilitation of the tuberculous patient from the following standpoints: (1) Philosophical consideration of objectives, (2) Techniques used, and (3) Statistical study of cases.

9:25 A.M.—ANTI-COAGULANT THERAPY: ITS USES AND ABUSES (*Lantern Slides*)—Paul D. Camp, M.D., and Louis H. Calisch, M.D., Richmond

This paper will discuss the value and complications of anticoagulant therapy in certain cardio-vascular diseases. Other anti-coagulants will also be evaluated.

9:50 A.M.—CARCINOMA OF THE CERVIX (*Lantern Slides*)—George Cooper, Jr., M.D., and Jesse Clore, M.D., Charlottesville

By using small treatment cones which can be pressed into the soft tissues of the abdomen and buttocks, nearer cancerocidal r dosage can be delivered to the regional nodes in carcinoma of the cervix.

Section B—Ballroom

William R. Pretlow, M.D., Third Vice-President, Presiding

9:00 A.M.—POTASSIUM THERAPY IN SURGICAL PATIENTS IN A COMMUNITY HOSPITAL—Horace A. Alberston, M.D., and Hugh H. Trout, Jr., M.D., Roanoke

The average surgeon in a community hospital sees cases in which potassium therapy is indicated. Three cases are presented. Also there is a review of the literature relating to potassium therapy of interest to the practicing surgeon.

9:25 A.M.—BILATERAL POLYCYSTIC OVARIES ASSOCIATED WITH STERILITY, AMENORRHEA & HIRSUTISM—Mason C. Andrews, M.D., Norfolk

The combination of amenorrhea, sterility and hirsutism with bilateral polycystic ovaries of a characteristic type, first described in 1935, is being reported much more frequently. It is correctable in a large number of cases. Patients must be carefully selected.

9:50 A.M.—THE TREATMENT OF THE PERFORATED APPENDIX (*Lantern Slides*)—Walter H. Buffey, M.D., and Francis B. Lee, M.D., Richmond

A series of eighty-eight consecutive cases of perforated appendicitis over a five-year period is presented. Data indicate that results are improved when appendectomy without drainage is the treatment instituted in a given case. A short discussion of post-operative treatment is included.

10:15 A.M.
Recess to Visit Exhibits

10:45 A.M.

Section A—Panorama Room

George S. Hurt, M.D., First Vice-President, Presiding

10:45 A.M.—TREATMENT OF LEUKEMIA AND LYMPHOBLASTOMA—C. L. Crockett, M. D., D. Shotten, M.D., and B. S. Leavell, M.D., Charlottesville

The treatment of leukemia, Hodgkin's Disease, lymphosarcoma and Giant follicle tumor is outlined. Cases illustrating the use of urethane, nitrogen mustard, T. E. M., and cortisone are presented. The treatment of choice in each disease is indicated.

11:10 A.M.—CHLOROMYCETIN PALMITATE: A CLINICAL EVALUATION IN ALLERGIC AND NON-

Allergic Adults and Children—J. Warrick Thomas, M.D., Frank R. Riley, Jr., M.D., Albert Edmonds, M.D., and E. L. Kendig, M.D., Richmond

Chloromycetin Palmitate may be substituted for crystalline Chloromycetin when a liquid form is desirable. Varied allergic problems complicated by infection and non-allergic entities have been treated with this drug in active pediatric, internal medical and allergic practices.

11:35 A.M.—Subtypes of Migraine—Fred V. Vance, Jr., M.D., and Walter O. Klingman, M.D., Charlottesville

Symptomatic departures from classical migraine exist but frequently are not recognized as part of the migraine syndrome. These subtypes or accompaniments of migraine include transient phenomena referable to other systems than those classically associated with migraine.

Section B—Ballroom

William R. Pretlow, M.D., Third Vice-President, Presiding

10:45 A.M.—The Surgical Treatment of Inguinal Hernia in Infancy and Childhood: Changing Concepts (*Lantern Slides*)—Charles E. Davis, Jr., M.D., Norfolk

The importance of early operation in patients who have no major contraindication regardless of age is emphasized and the advantages noted. The elimination of the congenital sac which is the crux of the procedure with minimal dissection and cord trauma is described. A series of cases is presented.

11:10 A.M.—The Treatment of Intestinal Obstruction with a New Tube—John W. Devine, Jr., M.D., Lynchburg

We have developed a tube within a tube which prevents the vacuum mucosal obstruction phenomena by the application of an air vent. Cases will be presented in which as much as six thousand cc. of fluid has been removed within a twenty-four-hour period.

11:35 A.M.—The Discussion of the Various Surgical Procedures for the Treatment of Peptic Ulcer—J. M. Emmett, M.D., and G. R. Clutts, M. D., Clifton Forge

A Critical Review of One Hundred Seventy-five Operative Procedures on the Stomach and Duodenum for Peptic Ulcers Over a Period of Five Years. Attention is Called by the Authors to the Reported Practice of Gastrectomy as the Treatment of Selection in Certain Patients with Perforated Peptic Ulcer.

2:00 P.M.

General Session—Panorama Room

C. L. Harrell, M.D., President, Presiding

2:00 P.M. — GENERAL MANAGEMENT OF THE CEREBRAL PALSY PROBLEM—WINTHROP M. PHELPS, M.D., (GUEST), BALTIMORE, MARYLAND

2:45 P.M.—Myxedema: A Clinical Reappraisal—Arthur Ebbert, Jr., M.D., K. R. Crispell, M.D., and William Parson, M.D., Charlottesville

Delayed diagnosis in myxedema presents a challenge. At fault may be the failure to differentiate myxedema from hypometabolism. The manifestations of classical myxedema and its variants are reviewed. Diagnostic and therapeutic aspects are emphasized.

3:00 P.M.—Recognition and Management of Hypoglycemic States with Particular Reference to Islet Cell Tumors of the Pancreas—Clifford G. Gaddy, M.D., William Parson, M.D., and H. B. Mulholland, M.D., Charlottesville

The patient with hypoglycemia may present unusual symptoms. A diagnostic awareness is necessary for its recognition. Islet cell adenomas of the pancreas present an unusual problem in diagnosis and management. Illustrative cases are discussed.

3:15 P.M.—Manifestations of Herpes Zoster of the Cranial Nerves—Francis H. McGovern, M.D., and G. Slaughter Fitz-Hugh, M.D., Charlottesville

The subject of herpes zoster of the cephalic extremity is presented, with a review of the manifestations when certain cranial nerves and ganglia are involved. An effort is made to simplify the subject. Controversial points are omitted.

3:30 P.M.

Recess to Visit Exhibits

4:00 P.M.

Ballroom

You and Your A. M. A.—Presentation by the American Medical Association

4:00 P.M.—Greetings and Welcome—Walter B. Martin, M.D., Member, Board of Trustees, A. M. A., Presiding

4:05 P.M.—WHY YOU AND YOUR A. M. A.—H. B. Mulholland, M.D., Member, Council on Medical Service, A. M. A.

4:20 P.M.—THE A. M. A. BEGINS AT HOME—John T. T. Hundley, M.D., President-Elect, The Medical Society of Virginia

4:35 P.M.—YOU ARE THE A. M. A.—Louis H. Bauer, M.D., President-Elect, American Medical Association

4:50 P.M.—PANEL DISCUSSION — QUESTIONS AND ANSWERS

8:30 P.M.

Panorama Room

Call to Order—Walter P. Adams, M.D., Chairman, Committee on Arrangements

Invocation—Rev. Alfred Brackette Clarke, Ghent Methodist Church, Norfolk

Announcements

Introduction of President

Awarding of Certificates to Members in "Fifty Year Club"

Address by President—C. Lydon Harrell, M.D., Norfolk

Memorial Hour—A. M. Showalter, M.D., Chairman, Membership Committee

Address—Representative Hugh D. Scott, Philadelphia, Pennsylvania

Tuesday, October 9

9:00 A.M.

Section A—Panorama Room

George S. Hurt, M.D., First Vice-President, Presiding

9:00 A.M.—THE MANAGEMENT OF CHRONIC COR PULMONALE FAILURE (*Lantern Slides*)—Julian R. Beckwith, M.D., and R. B. Gahagan, M.D., Clifton Forge

A review of the conditions predisposing to this disease will be made and the pathological physiology of the disease will be discussed. Current methods of management will be outlined with response to the treatment of the underlying pulmonary disease as well as the treatment of the associated heart failure.

9:25 A.M.—HEMOPHILIA WITH TWO CIRCULATING ANTICOAGULANTS—H. G. Kupfer, M.D., R. L. Thagard, M.D., I. Irvin, M. T. and D. Lipford, M. T., Richmond

A case of sporadic hemophilia is presented. Studies showed presence of a heparin-like substance in blood which was neutralized by treatment with protamine sulfate. Another anticoagulant was determined qualitatively and quantitatively as an antibody against antihemophilic globulin. Literature is reviewed; practical value of the test is discussed.

9:50 A.M.—THE USES OF ADRENAL CORTICAL HORMONE IN ALCOHOLISM (*Lantern Slides*)—Russell G. McAllister, M.D., Richmond

A report of consecutive cases of alcoholism, treated in the home or office, with small doses of adrenal cortical hormone and ascorbic acid, with marked success. A review of the medical literature related to the metabolic concept of alcoholism.

Section B—Ballroom

William R. Pretlow, M.D., Third Vice-President, Presiding

9:00 A.M.—DIAPHRAGMATIC HERNIA — M. K. King, M.D., Norfolk

Diaphragmatic hernia is present in two per cent of patients examined by x-ray. Not all required surgery but in the presence of marked symptoms, hemorrhage, or ulceration, surgery is curative. The surgical management of this condition is discussed.

9:25 A.M.—SUBTOTAL GASTRECTOMY FOR PEPTIC ULCER (*Lantern Slides*)—J. Will Tankard, M.D, Newport News

A report on 28 cases with technique employed and a close follow-up. In 14 of these (50 per cent) a subdiaphragmatic vagotomy was done also. Comparison of results obtained in the two groups will be made. (Paper illustrated with Kodachrome photographs of specimens, technique and lantern slides of statistical data.)

9:50 A.M.—THE PROBLEM OF THE CROSSED-EYE CHILD (*Lantern Slides and Moving Picture*)—E. G. Gill, M.D., Roanoke

It is the intention of this paper to impress upon the family physician the importance of having every child's eyes examined thoroughly by an ophthalmologist under complete cycloplegia before they go to school.

10:15 A.M.

Recess to Visit Exhibits

10:45 A.M.

Section A—Panorama Room

George S. Hurt, M.D., First Vice-President, Presiding

10:45 A.M.—Porphyria and One False Initial Diagnosis Due to the Previous Taking of Pyridium (*Lantern Slides*)—T. E. Stanley, M.D., P. E. Schools, M.D., and H. Field, Jr., M.D., Martinsburg, West Virginia

Porphyria is less rare than is usually thought. Its recognition is important because it may imitate many abdominal and/or neurological conditions. Four cases are presented; also a patient with polyneuritis in whom the previous taking of pyridium led to a false initial diagnosis.

11:05 A.M.—Histoplasmosis: Occurrence in Virginia (*Lantern Slides*)—Lee E. Sutton, M.D., Richmond

The occurrence of Histoplasmosis capsulatus infection in the State of Virginia. Presentation of the clinical picture, diagnosis and course of the disease. A necropsy report of a patient infected with the disseminated type.

Section B—Ballroom

S. K. Ames, M.D., Second Vice-President, Presiding

10:45 A.M.—Recent Trends in the Management of the Toxemias of Pregnancy—H. Hudnall Ware, Jr., M.D., Richmond

This paper is a review of the recent trends in prenatal care with emphasis on the early recognition of the signs of the toxemias of pregnancy. The prevention of severe pregnancy toxemia is stressed, especially the importance of diet and rest. The treatment of those patients with convulsive seizures is also reviewed.

11:05 A.M.—Hemorrhage Due to Dicumerol and Its Anologues (*Lantern Slides*)—James T. Twyman, M.D., Charlottesville

Contra-indications, difficulty in estimating dosage, and present knowledge of the pharmacological action of the dicoumarin group of anticoagulants are reviewed. An illustrative case is presented. Specific therapy including the use of Vitamin K and K I Oxide is discussed.

11:30 A.M.

Panorama Room

Panel—Management of Infectious Diseases

C. L. Harrell, M.D., President, Presiding

William Parson, M.D., Charlottesville, Moderator

Virus and Rickettsial Diseases—Alto E. Feller M.D., Charlottesville

Bacterial Diseases—Theodore E. Woodward, M.D., (Guest), Baltimore, Maryland

Fungus Diseases—Edward P. Cawley, M.D., Charlottesville

2:00 P.M.
Ballroom

House of Delegates Meeting

2:00 P.M.

General Session—Panorama Room

William R. Pretlow, M.D., Third Vice-President, Presiding

2:00 P.M.—Edema and Lymphedema of the Lower Extremity (*Lantern Slides*)—Eugene L. Lowenberg, M.D., Norfolk

The normal mechanism for the formation and absorption of tissue fluid is described. Factors altering this mechanism to cause edema of the lower extremity are discussed. Clinical types of leg swelling are presented and their differential diagnosis and treatment given.

2:20 P.M.—Internal Abdominal Herniation—P. B. Parsons, M.D., Norfolk

The subject of internal abdominal herniation is reviewed. Emphasis is placed on paraduodenal herniation, the incidence of which lesion is greater than the literature indicates. The diagnostic signs and symptoms are discussed.

2:40 P.M.—Cancer of the Thyroid—R. L. Payne, Jr., M.D., and Arnold F. Strauss, M.D., Norfolk

The incidence of cancer and various thyroid diseases in the Tidewater Area is discussed. Illustrative cases of special interest are reviewed briefly. The danger of the single node in the thyroid is emphasized.

3:00 P.M.—Combined Nitrogen Mustard and Irradiation Treatment of Lymphatic and Other Malignant Tumors—H. St. George Tucker, Jr., M.D., Leslie W. Rose, M.D., and Samuel Richman, M.D., Richmond

The results and follow-up studies of 40 patients treated with single injections of Nitrogen Mustard followed immediately by a single dose of X-Ray are presented. An attempt is made to compare the results of this type of treatment with the results obtained when using Nitrogen Mustard alone.

3:20 P.M.—The Use of Cation Exchange Resins in the Management of Edema (*Lantern Slides*)—J. Edwin Wood, M.D., Donald H. Ferguson, M.D., and Preston Lowrance, M.D., Charlottesville

This presentation represents a clinical study of some sixty patients with edema to whom several

forms of cation resin have been administered. Reduction of sodium absorption has been demonstrated by urinary sodium and potassium excretion and other chemical data have been gathered to illustrate the practical features important in the treatment of patients when cation resins are used. The dangers involved have also been emphasized.

4:00 P.M.

General Session—Panorama Room

C. L. Harrell, M.D., President, Presiding

DIAGNOSIS AND TREATMENT OF VARIOUS TYPES OF SPONTANEOUS HYPOGLYCEMIA—JOHN E. HOWARD, M.D., (GUEST), BALTIMORE, MARYLAND

6:00 P.M.

Cocktail Party

7:00 P.M.

Dinner and Entertainment

Wednesday, October 10

9:00 A.M.

Section A—Panorama Room

C. L. Harrell, M.D., President, Presiding

9:00 A.M.—PRIMARY CARCINOMA OF THE LIVER—W. T. Thompson, Jr., M.D., and William H. Higgins, Jr., M.D., Richmond

Although primary carcinoma of the liver is one of the rarer malignancies, it occurs with sufficient frequency to justify its consideration. The literature on this disease is reviewed, and a series of thirty cases collected by the authors is analyzed.

9:20 A.M.—PSYCHIATRIC IMPLICATIONS OF THERAPEUTIC ABORTIONS—David C. Wilson, M.D., Charlottesville

Investigations have shown that many emotional disorders are accompanied by a history of abortion. This may be a therapeutic abortion, induced abortion, or spontaneous abortion. This study is based on interviews with patients who have experienced such a shock at some previous time. Our interpretations of the effect of this previous abortion on the patient's life is detailed, and conclusions drawn.

9:40 A.M.—CONTEMPORARY ASPECTS IN THE DIAGNOSIS AND MANAGEMENT OF EPILEPSY—I. S. Zfass, M.D., Richmond

The significance of epilepsy in the general practice of medicine is emphasized. Recent research and new methods of diagnosis and management are discussed. Present status of drug therapy and an evaluation of some of the newer drugs is presented.

10:00 A.M.—ABDOMINAL TUBERCULOSIS WITHOUT EVIDENT TUBERCULOSIS OF THE LUNGS—E. S. Roberts, M.D., and H. Nushan, M.D., Kecoughtan

Abdominal Tuberculosis is rarely diagnosed today, especially if there is no evident pulmonary tuberculosis. Seven cases will be presented, five of which were operated upon for various conditions. Two lived and five came to autopsy. The value of early exploratory laparotomy and bacteriologic study is emphasized.

Section B—Ballroom

S. K. Ames, M.D., Second Vice-President, Presiding

9:00 A.M.—INEQUALITY OF LEG LENGTHS (*Lantern Slides*)—Earnest B. Carpenter, M.D., Richmond

Presentation of old and recent approaches to the correction of unequal leg lengths with an analysis of the results obtained by surgical arrest of the epiphyses of the tibia or femur, using stainless steel staples from the Orthopedic Service, Medical College of Virginia and Crippled Children's Hospital, Richmond, Virginia.

9:20 A.M.—NEUROSURGICAL METHODS FOR THE RELIEF OF SEVERE INTRACTABLE PAIN (*Lantern Slides*)—Claude C. Coleman, M.D., John M. Meredith, M.D., and Charles E. Troland, M.D., Richmond

These measures include many different surgical procedures. The optimum time for carrying out the appropriate procedure is emphasized. Careful selection of the operation most likely to afford relief is important.

9:40 A.M.—THE PROBLEM OF ACNE: A FIFTY YEAR REVIEW—Thomas W. Murrell, M.D., and Thomas W. Murrell, Jr., M.D., Richmond

Acne is a problem largely because scientific therapy is thwarted by folk-lore ideas as well as inefficient, worn-out medical concepts. A fifty-year chronological review is presented with discussion of therapy of proven benefit.

10:00 A.M.—RECENT ADVANCES IN ORTHOPEDIC SURGERY OF GENERAL INTEREST (*Lantern Slides*)—Thomas Beath, M.D., Richmond

This paper presents: 1. Intramedullary nailing of fractures. The history of the development, the potentialities, the complications and contra-indications and illustrative cases are presented. 2. Cause and treatment of plantar calluses and corns. A more accurate understanding and more effective treatment is presented. 3. A one-way stretch method of cor-

recting joint deformity. A more effective treatment of a new type is presented and its applicability in clubfeet shown.

10:30 A.M.
Recess to Visit Exhibits

11:00 A.M.
General Session—Ballroom

C. Lydon Harrell, M.D., President, Presiding

Clinicopathological Conference

I. A. Bigger, M.D., Medical College of Virginia, Richmond

E. P. Lehman, M.D., University of Virginia, Charlottesville

Installation of John T. T. Hundley, M.D. as President

Announcements and Adjournment

Article IV, Section 3, (By-Laws) With the exception of the address by the President and invited guests, no address, paper, or other contribution on the program shall be longer than fifteen minutes.

Section 4—No one shall discuss a paper more than once and then for only five mintues.

Section 7—All papers and contributions are the property of the Society and cannot be published elsewhere without the consent of the Publication Commitee.

SCIENTIFIC EXHIBITS

1. *Stephen Non-Rebreathing, Non-Resisting Valve, a Technique for Children's Anaesthesia.* Thomas Walker, M.D., Medical College of Virginia.
2. *Experimental Nephrosis Produced by Brain Stimulation with a Demonstration of the Descending Pressor Pathway.* Ebbe Curtis Hoff, Ph.D., M.D., Professor of Neurological Science, Joseph F. Kell, Jr., M.D., Medical College of Virginia.
3. *Radioactive Iodine, 1.131, in the Diagnosis and Treatment of Hyperthyroidism.* William Parson, M.D., Professor and Head, Department of Internal Medicine, K. R. Crispell, M.D., and Group, University of Virginia.
4. *Educational Material Regarding Post-Operative Courses for General Practitioners.* Edward E. Haddock, M. D., Virginia Academy of General Practice, Richmond.
5. *Plastic Surgery.* Leroy Smith, M.D., St. Elizabeth's Hospital, Richmond.
6. *A New Tube for the Treatment of Intestinal Obstruction.* John W. Devine, Jr., M.D., Lynchburg.
7. *Laboratory Diagnostic Aids.* Henry T. Kupfer, M.D., Assistant Professor of Clinical Pathology, G. Z. Williams, M.D., N. F. Young, M.D., J. M. Beebe, M.D., Department of Clinical Pathology and Hospital Laboratory, Medical College of Virginia.
8. *Clinical Electroencephalography and Electromyography.* I. S. Zfass, M.D., Richmond.
9. *Herpes Zoster of the Cephalic Extremity.* G. S. Fitz-Hugh, M.D., Charlottesville, Francis H. McGovern, M.D., Danville.
10. *Multiple Charcot Joints.* Wendell J. Pile, M.D., Mark B. Williams, M.D., Frances E. Wood, M.D., Eastern State Hospital, Williamsburg.
11. *Para-duodenal Hernia.* Philip Parson, M.D., X-ray Department, Norfolk General Hospital.
12. *Early Diagnosis of Bronchogenic Carcinoma.* Arnold Rawson, M.D., Department of Pathology, Norfolk General Hospital.
13. *Medicolegal Seminar.* Geoffrey T. Mann, M.D., L.L.B., Chief Medical Examiner, Department of Health, Commonwealth of Virginia.
14. *Blue Shield Medical Care Plan.* M. Haskins Coleman; Virginia Medical Service Association.
15. (A) *The American Medical Education Foundation.* Russell Staudacher, American Medical Education Foundation. (B) *A. M. A. Information Booth.* Thomas A. Hendricks, American Medical Association.
16. *Alcohol and Cancer Control Programs in Virginia.* J. Robert Anderson, Director, Bureau of Health Education, Virginia State Department of Health.
17. *Development of the Human Fetus (X-ray Studies.)* T. Addison Morgan, M.D., Raiford Clinic, Franklin.
18. *Reconstructive Surgery of the Hand.* Robert L. Payne, Jr., M.D., Norfolk.
19. *Interesting Surgical Problems of Infancy and Childhood.* Charles Davis, M.D., Norfolk.
20. *Rehabilitation of the Tuberculous.* A. Ray Dawson, M.D., F. H. Armstrong, M.S., Virginia State Department of Education.
21. *Cancer of Lung.* L. H. Peterson, Managing Director, American Cancer Society, Virginia Division.
22. *Metallic Hip Joint.* George Duncan, M.D., George Hollins, M.D., Norfolk.

TECHNICAL EXHIBITS

Technical Exhibits will be set up on the Porches and Pool Loggia of the Cavalier Hotel. The following is a list of exhibitors with a brief description of each exhibit:

Booth No. 1
Physicians Products Company, Inc.
Petersburg, Virginia

The exhibit of the Physicians Products Company will feature displays of each of the firm's ethical prescription products. Mr. W. C. Comstock and Mr. H. H. Swinson, medical service representatives in Virginia, will be in attendance to discuss the Honey-sulfonamides and other products in the exhibit. Members of the Medical Society of Virginia, their families, and guests are cordially invited to stop by and visit with the representatives in attendance.

Booth No. 2
Valentine Company, Inc.
Richmond, Virginia

The Valentine Company, Inc., will be represented as usual at the October meeting of The Medical Society of Virginia.

The Company will feature its newer nutritional products, and its new bulk laxative, Valocell.

Also featured, will be Valentine's Meat Extract, with particular reference to its use in Potassium Therapy.

Booth No. 3
Sandoz Pharmaceuticals
New York, New York

It is with a great deal of pleasure and pride that we invite you to visit our scientific exhibit at the forthcoming convention.

Our representatives, Mr. L. G. Boedecker and Mr. J. A. Gallion, will be pleased to welcome you at booth number 3.

Booth No. 4
Winthrop-Stearns, Inc.
New York, New York

Booth No. 5
Haag, Inc.
Richmond, Virginia

HAAG, Incorporated, Pharmaceutical Chemists of Richmond, Virginia, was incorporated in 1948 by its president, Wilhelm Haag, who after having graduated from the Medical College of Virginia School of Pharmacy in 1933, was associated for many years with one of the larger pharmaceutical houses.

HAAG, Incorporated, is dedicated to making available to the medical profession some of the most recent, clinically proved, ethical, pharmaceutical preparations.

Booth No. 6
Abbitt Pharmaco
Newport News, Virginia

It is with pleasure that we look forward to the yearly assembly of The Medical Society of Virginia to greet old friends and make new acquaintances. Members of the association are cordially invited to stop by our booth, register, meet our representatives who will be more than happy to answer any questions relative to our ethically promoted products.

Booth No 7
Zimmer Manufacturing Company
Warsaw, Indiana

Booth No. 8
Powers & Anderson, Inc.
Richmond, Virginia

Powers and Anderson, Incorporated, booth will have on display latest developments in equipment, instruments and supplies for physicians offices. The booth will be attended by Robert E. Anderson, Jr., Charles T. Brown, Jr., H. C. Haun and W. H. Wilkinson, Jr.

Booth No. 9
VanPelt & Brown, Inc.
Richmond, Virginia

VanPelt and Brown extend a cordial invitation to visit their exhibit where representatives will be happy to answer questions and supply clinical samples of their products.

Booth No. 10
The Dominion Laboratories
Richmond, Virginia

We welcome you to our exhibit where our representative will greet you. Your inquiries and requests will be gladly received. Special consideration will be given our specialties: Barbamin, Colbesal, Ophthalmic Polyvitamin and Plexikap.

Booth No. 11
Eli Lilly and Company
Indianapolis, Indiana

Your Lilly medical service representative cordially invites you to visit the Lilly exhibit. In commemoration of the seventy-fifth anniversary of its founding, Eli Lilly and Company will display a statuary group dedicated to and symbolizing the cooperation between medicine, research, and pharmacy. Many new therapeutic developments will be featured and literature on these products will be available.

Booth No. 12

Peoples Drug Stores, Inc.

Washington, D. C.

Peoples Drug Stores invites you all to visit their exhibit where representatives of the company will be pleased to talk with you, and furnish information concerning the professional services offered.

Booth No. 13

The National Drug Company

Philadelphia, Pennsylvania

The National Drug Company, pioneer in the clinical application of resin therapy, will feature NATRINIL, a cation exchange resin for the control of edema; RESINAT, a polyamine exchange resin for the treatment of peptic ulcer; and RESION, an intestinal absorbent. Trained representatives will be in attendance to discuss our resin preparations and other specialties: Ammivin, AVC Improved, Benat, DTP Vaccine, Natolone, as well as any of National's vast array of pharmaceutical and biological products.

Booth No. 14

Holland-Rantos Company, Inc.

New York, New York

Importance of patient acceptance in continued use of products for conception control explains why doctors increasingly recommend the KOROMEX COMBINATION. The convenient unit package contains a Koromex Diaphragm plus small tube of *both* Koromex Jelly and Koromex Cream, so that—for the price of the diaphragm alone—patients may make their own choice. Representatives will gladly show you the KOROMEX COMBINATION and discuss the full line of Koromex contraceptive specialties.

Booth No. 15

A. H. Robins Company

Richmond, Virginia

Booth No. 16

Wm. P. Poythress & Company, Inc.

Richmond, Virginia

Physicians attending the meeting of the Medical Society of Virginia are cordially invited to visit the Poythress exhibit. There will be found literature, samples, and information on our familiar and well-established proprietary specialties, SOLFOTON, PANALGESIC, T.C.S., URO-PHOSPHATE, TROCINATE and TROCINATE WITH PHENOBARBITAL. Mr. Frank Peake will be in attendance.

Booth No. 17

Mead Johnson & Company

Evansville, Indiana

Mead Johnson & Company will feature Lactum and Dalactum, convenient formulas of evaporated milk containing Dextri-Maltose; three water-soluble vitamin preparations, Poly-Vi-Sol, Tri-Vi-Sol and Ce-Vi-Sol; Fer-In-Sol, a palatable, highly concentrated solution of ferrous sulfate. Also Mulcin, a pleasingly flavored vitamin emulsion, for teaspoonful dosage, as well as four Pablum cereals, including Barley and Rice.

Representatives in attendance will be glad to furnish information regarding the above products.

Booth No. 18

Schering Corporation

Bloomfield, New Jersey

Cortogen Acetate Ophthalmic Suspension 0.5 per cent, Schering's brand of cortisone acetate in a specially prepared ophthalmic suspension, will be featured. Also exhibited will be, Tricombisul liquid and tablets—the safest and most desirable forms of sulfonamide therapy; along with Trimetose, an elegant antihistamine expectorant containing 7.5 mg. of Trimeton per 4 cc. and Coricidin for the common cold, containing Chlor-Trimeton, aspirin, phenacetin and caffeine.

Schering Professional Service Representatives will be in attendance to welcome you and to discuss these and other Schering products.

Booth No. 19

Sharp & Dohme, Inc.

Philadelphia, Pennsylvania

Clinical data from the laboratories of the Medical Research Division of Sharp & Dohme are featured. The potentiating effect of a combination of the antibiotics, bacitracin and tyrothricin; the synergistic effect of penicillin in conjunction with the sulfonamides; and the use of Blood Group Specific Substances A and B in conditioning Group 0 blood, are of major interest.

Booth No. 20

Lederle Laboratories Division

American Cyanamid Company

New York, New York

You are cordially invited to visit our exhibit, where you will find representatives who are prepared to give you the latest information on Lederle products.

Booth No. 21

Ayerst, McKenna & Harrison, Ltd.

New York, New York

Physicians attending the Medical Society of Virginia Convention are cordially invited to visit the Ayerst booth. Our representatives will be happy to answer inquiries relative to all products of our manufacture.

Booth No. 22

G. D. Searle & Company

Chicago, Illinois

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

Featured will be Banthine, the true anticholinergic drug for the treatment of peptic ulcers; Dramamine, for the prevention and active treatment of motion sickness; and Alidase, Searle brand of hyaluronidate which permits subcutaneous feedings at intravenous speed.

Other time proven products on which information may be obtained are Searle Aminophyllin in all dosage forms, Metamucil, Ketochol, Floraquin, Kiophyllin, Diodoquin, Pavatrine, and Pavatrine with Phenobarbital.

Booth No. 23
E. R. Squibb & Sons
New York, New York

Squibb will feature Pentids at the Medical Society of Virginia meeting. Pentids are the new 200,000 unit penicillin tablets (buffered) formulated for convenient t.i.d. dosage.

Your Squibb representative invites you to visit the Squibb booth to discuss Pentids and related products.

Booth No. 24
A. S. Aloe Company
Washington, D. C.

Booth No. 25
Similac & Cerevim
M & R LABORATORIES
Columbus, Ohio

Our representatives for Similac and Cerevim will be most happy to discuss with you the merits and use of our products in the field of infant and child nutrition.

Booth No. 26
Ciba Pharmaceutical Products, Inc.
Summit, New Jersey

Ciba Pharmaceutical Products, Inc., invites you to visit its exhibit which will feature PRISCOLINE Hydrochloride, an adenolytic and sympathicolytic agent that produces peripheral vasodilation.

Representatives in attendance will gladly discuss the role of PRISCOLINE in the treatment of peripheral vascular disease.

Booth No. 27
Philip Morris & Company
New York, New York

Philip Morris and Company will show the results of research on the irritant effects of cigarette smoke. These results show conclusively that Philip Morris are less irritating than other cigarettes. An interesting demonstration will be made on smokers at the exhibit which will show the difference in cigarettes.

Booth Nos. 28 & 29
The Coca-Cola Company
Atlanta, Georgia

Ice-cold Coca-Cola served through the courtesy and cooperation of the Norfolk Coca-Cola Bottling Works, Inc., and The Coca-Cola Company.

Booth No. 30
Parke, Davis & Company
Detroit, Michigan

Medical Service Members of the Parke, Davis & Company staff will be in daily attendance at our commercial exhibit for consultation and discussion of the various products listed in our Pharmaceutic, Antibiotic, and Biologic Catalog. Important Specialties, such as Chloromycetin, Penicillin S-R, Benadryl, Vitamins, Oxycel, Thrombin Topical, Hypnotics, and others will be featured. You are most cordially invited to visit our exhibit with the assurance that your personal interest will indeed be very much appreciated.

Booth No. 31
Tablerock Laboratories
Greenville, South Carolina

Booth No. 32
Ortho Pharmaceutical Corporation
Raritan, New Jersey

Ortho cordially invites you to visit their booth. Featured will be the ORTHO KIT, a new, convenient, and complete kit containing the requisites for conception control, in a beautiful woven plastic zippered purse.

New products displayed will include NUTRI-DISCS for selected infertility cases, DIFFUSIN (hyaluronidase) MASSE' Nipple Cream, and other new gynecic pharmaceuticals.

Booth No. 33
Abbott Laboratories
Baltimore, Maryland.

The Abbott exhibit will include several leading specialties, such as: ABBOCILLIN 800M, offering 800,000 units of penicillin in a 1-cc. vial; DAYALETS and OPTILETS, new synthetic multiple vitamin tablets; SUCARYL, a noncaloric sweetening agent that can be used in cooking, baking and canning; NEMBUTAL, a short-acting barbiturate; PENTOTHAL, an ultra-short-acting barbiturate for intravenous use, and other products.

Booth No. 34
W. B. Saunders Company
Philadelphia, Pennsylvania

We invite all doctors attending the meeting of The Medical Society of Virginia to visit our exhibit where Mr. Earl Dunham will display a complete line of our books including Alvarez' "The Neuroses", Campbell's "Clinical Pediatric Urology", Hyman's "Integrated Practice of Medicine", Hyman's "Progress Volume", Shanks & Kerley's "Textbook of X-Ray Diagnosis", Braasch & Emmett's "Clinical Urography", Cecil-Loeb's (new eighth edition) "Textbook of Medicine", Greenhill-DeLee's (new 10th edition) "Principles and Practice of Obstetrics", (new 22nd edition) "American Illustrated Medical Dictionary", and many other new books and new editions.

Booth No. 35
C. B. Fleet Company, Inc.
Lynchburg, Virginia

Booth No. 36
Richmond Surgical Supply Company
Richmond, Virginia

Richmond Surgical Supply Company cordially invites all attending physicians and their families to see the latest developments in medical equipment, instruments and supplies. Their exhibit will be attended by Messrs. Max H. Goodloe, Quinton R. Jones, and Jack M. Enoch.

Booth No. 37
Doho Chemical Corporation
New York, New York

Doho Chemical Corporation and its subsidiary Mallon Chemical Corporation are pleased to exhibit their preparations AURALGAN for the relief of pain in Otitis

Media and removal of Cerumen: O-TOS-MO-SAN for treatment of the suppurative ears and aural dermatomycosis: RHINALGAN the new nasal decongestant without systemic or circulatory effect, in the plastic spray-omizer and RECTALGAN (MALLON) the liquid topical anesthesia, for relief of pain and discomforture in hemorrhoids, pruritus and perineal suturing.

Booth No. 38
The Upjohn Company
Kalamazoo, Michigan

Booth No. 39
The Liebel-Flarsheim Company
Cincinnati, Ohio

The Liebel-Flarsheim Company cordially invites you to visit their booth in which their latest diathermy and Bovie electrosurgical apparatus will be available for examination and demonstration. Capable representatives will be on hand at all times and we hope you will stop by so that we may become acquainted.

Booth No. 40
Brown & Williamson Tobacco Corporation
Louisville, Kentucky

Members of The Medical Society of Virginia are cordially invited to visit the two booths of the Brown & Williamson Tobacco Corporation which has large manufacturing facilities at Petersburg, Va. One of Brown & Williamson's booths will be devoted to KOOL mildly mentholated cigarettes; the other to VICEROY filter tip cigarettes. Both brands are of particular interest to the medical profession. Souvenirs will be presented to The Medical Society of Virginia members registering at the KOOL and VICEROY booths.

Booth No. 41
Virginia Medical Equipment Company
Norfolk, Virginia

Booth No. 42
G. W. Carnrick Company
Newark, New Jersey

Featured at the GWC technical exhibit will be DIOLOXOL (Council-accepted brand of mephenesin) the new orally-administered muscle relaxant for certain spastic and neuromuscular disorders. This new antispasmodic acts selectively . . . depresses interneuron activity at the spinal level . . . does not depress higher brain centers. Indications include low back pain and other muscular spastic disorders, cerebral palsy, tetanus (mild symptoms), hemiplegia, diplegia, Parkinson's Syndrome; for use also as adjunct to psychotherapy in anxiety tension states.

Booth No. 43
Pet Milk Company
St. Louis, Missouri

Specially trained representatives will be in attendance to discuss the use of Pet Milk in infant feeding, and to present many services that are time-savers for busy physicians. Miniature Pet Milk cans will be given to visitors at the exhibit.

Booth No. 44
Vaisey-Bristol Shoe Company, Inc.
Rochester, New York

Jumping-Jacks are an entirely different kind of shoe because they are designed especially for children. They are not a small model of an adult shoe. Their standout feature is the way they fit the curve of the os calcis with a curve, thereby achieving a degree of heel fit unmatched by any other type of shoe. Jumping-Jacks are also noted for their flexibility, which permits the foot exercise so necessary to the development of strong, sturdy feet and legs.

Booth No. 45
Camel Cigarettes
New York, New York

CAMEL Cigarettes will feature color slides of background data from their newest research. After weekly examinations of the throats of hundreds of men and women smoking CAMEL Cigarettes exclusively for thirty days, throat specialists reported "Not one single case of throat irritation due to smoking CAMELS."

Booth No. 46
The Stuart Company
Pasadena, California

The Stuart Company has spent over 4 years in developing a complete, soluble amino acid product for oral use. The Stuart process reduces casein to its ultimate amino acids by acid hydrolysis, then converts the amino acids into a soluble bead form. This product, The Stuart Amino Acids, will be exhibited at the Virginia Beach meeting along with several other Stuart nutritional specialties.

Booth No. 47
Brown & Williamson Tobacco Corporation
Louisville, Kentucky
See Booth No. 40

Booth No. 48
The Borden Company
New York, New York

Borden representatives will be more than pleased to discuss a new powdered infant food with you. Bremil is a completely modified milk in which nutritionally essential elements of cow's milk have been adjusted in order to supply the nutritional requirements of infants deprived of human milk. Also exhibited will be Mull-Soy, Dryco, Biolac and other prescription products.

Booth No. 49
U. S. Vitamin Corporation
New York, New York

Booth No. 50
Charles C. Haskell & Company, Inc.
Richmond, Virginia

Representatives will be present to welcome visiting physicians and to answer any inquiries regarding our ethical prescription specialties, such as BELBARB (sedative-spasmolytic), HASAMAL (analgestic), RUZAN (cardiovascular and hypertensive agent), C-M-I (lipotropic therapy), and other rational therapeutic combinations.

REPORTS FOR THE 1951 ANNUAL MEETING

THE MEDICAL SOCIETY OF VIRGINIA

The Council

The Council of The Medical Society of Virginia met at The Medical Society Building, 1105 West Franklin Street, Richmond, 3 p.m., Thursday, July 19, 1951. Dr. C. Lydon Harrell, President, indicated that the meeting was called for the purpose of Reorganization of office personnel and the employment of Executive Secretary-Treasurer and Director of Public Relations.

During an executive session, the minutes of the transactions of the President and the Executive Committee since the death of the former Executive Secretary, were read and approved by the Council.

Dr. Vincent W. Archer, Chairman of the special committee to interview applicants and review applications for the position of Executive Secretary-Treasurer and Director of Public Relations, read the following report: It is recommended that Mr. Robert I. Howard be employed as Executive Secretary and Director of Public Relations at a salary of $6,500 per year. It is also recommended that Mr. Richard H. Nash be employed on a permanent basis as Assistant to the Executive Secretary at the salary which he now receives, $4,600. This report was accepted and approved by the Council.

Dr. Harry J. Warthen, Jr., Chairman of the House Committee appeared before the Council, asking that group to rescind the action of its last meeting regarding the placement of oil storage tanks outside the building. Dr. Warthen indicated that the insurance companies approved of putting these tanks in the basement so long as the requirements of the city ordinance were met. He also indicated the expense and inconvenience of placing these tanks outside. Dr. Archer moved that the recommendations of the House Committee be approved and that they be empowered to go ahead with the installation of the oil furnace and to dispose of the old furnace and iron fireman. This motion was seconded and passed.

Dr. Warthen also asked if the Council would like a report presented at the annual meeting, perhaps illustrated with some slides to show what had been accomplished. After some discussion, it was decided that a short report be prepared for the House of Delegates to be published in the Journal the following month. This thought was put into the form of a motion which was seconded and passed.

Dr. Rucker then told the Council of the suggestion to celebrate the 100th anniversary of Walter Reed's birthday, September 13, 1951. He told of the plan to ask the Governor to set that day aside and of other plans by the Richmond Academy of Medicine. Dr. Harrell then appointed Dr. Rucker as chairman of a committee of one to look into this celebration and to get any help he needed to carry out his plan.

Dr. Rucker also brought up the question of the amount of space to allow the Clinico-pathological papers in the VIRGINIA MEDICAL MONTHLY. He indicated that these papers take up quite a bit of space and the sponsors do not seem to be willing to pay the amount in excess of that allowed by the Journal for cuts. Dr. Rucker wanted to know if he had permission of Council to collect these bills. It seemed to be the sense of Council that such matters were in the hands of the Publication Committee and Dr. Harrell asked Dr. Rucker to bring in his recommendations in this regard at the next Council meeting.

Upon presenting to the Council the bids received in regard to the publishing of a directory of members of The Medical Society, Dr. King asked Council to provide the money necessary to have this job done. Dr. Harrell pointed out at this time that there is no provision for a Budget or Finance Committee in the Constitution and By-Laws, except at the Council itself. It was then moved by Dr. Hundley, and seconded by Dr. Farmer, that a Budget Committee be added to the Standing Committees, with its functions to include those of a Finance Committee. This would be a committee of three, one to be appointed annually, and the President-Elect to be an ex-officio member. It was also understood that one member would be from Richmond. This motion passed. On the basis of this motion, Dr. Hundley moved that the necessary funds for the publishing of the directory proposed by Dr. King, be suggested for inclusion in the budget for the coming year. Dr. Archer seconded this motion and it was passed.

The Council then discussed some matters in regard to the program of the meeting in October, but no action was taken.

Dr. Harrell asked that it be recorded in the minutes that he had appointed Dr. M. Pierce Rucker as chairman of a committee to draw up a resolution in regard to the death of Dr. L. J. Roper.

Dr. Harrell also appointed Dr. J. M. Emmett as Chairman of a committee to draw up a resolution in regard to the death of Mr. Henry S. Johnson. The President requested that both of these resolutions be read at the House of Delegates and be published in the VIRGINIA MEDICAL MONTHLY.

The Council adjourned at 4:30 p.m.

LUCY B. JOHNSON, *Reporter.*

The Executive Office

The year 1950-51 has been unusually active for the office of the Executive Secretary-Treasurer and Director of Public Relations. The very meaning of medical public relations prevents the activities of the two offices being separated.

Immediately following the adjournment of the annual meeting in October 1950, Dr. C. Lydon Harrell called a

meeting of his new Council and plans were laid for the year. The minutes of that meeting were published in the February issue of the MONTHLY, page 95, following the Minutes of the House of Delegates, page 92. Since that meeting, there have been three other meetings on January 18, April 26 and July 19. The minutes of these meetings appeared on pages 150, 320 and 490 of the March, June and September issues of the MONTHLY, respectively.

The House of Delegates at its last meeting authorized the purchase of an office building for the Society at 1105 West Franklin Street, Richmond. This purchase was made, and after some interior redecoration, the offices were moved to that address officially April 1, 1951.

At its meeting in April, the Council gave Miss E. Spencer Watkins the title of Executive Assistant. The Council meeting in July was called for the purpose of Reorganization of office personnel and the employment of an Executive Secretary-Treasurer and Director of Public Relations. Mr. Robert I. Howard was named Executive Secretary-Treasurer and Director of Public Relations, and Mr. Richard H. Nash was employed on a permanent basis as Assistant to the Executive Secretary.

One of the President's objectives for the year was increased membership. A concerted effort to gain new members has been made from the Executive office with the help of Councilors and local secretaries. The Membership for the year is as follows:

Members reported in 1950			2,205
New Members	128		
Reinstatements	3		
		131	
Deaths	38		
Resignations	21		
Dropped	25		
		84	
Increase			47

Through these past two years, there has seemed to be quite a bit of confusion in regard to Membership-Fellowship dues in the American Medical Association, and the dues to the State Society. Bulletins carrying information in this connection have been sent the membership, as well as local Secretaries and Presidents, several times during the year. In order to retain the three delegates to A. M. A., from Virginia, there must be over two thousand members of The Medical Society of Virginia who pay dues to the A. M. A. It is hoped that the third delegate will not have to be dropped.

The Society contributed this year to the following allied organizations: The Virginia Council on Health and Medical Care, The National Society for Medical Research, the Medical Executives Conference and the American Medical Education Foundation. Approximately fifteen magazines and newsletters are subscribed to, and the Society belongs to the Virginia State Chamber of Commerce.

The office of The Medical Society of Virginia was represented in both sessions of the A. M. A. during the year. Conferences on National Public Relations, National Educational Campaign, Council on Medical Service, Middle Atlantic Regional Conference and other important conferences within Virginia were also attended.

The office personnel wish to take this opportunity to express their appreciation for the spirit of interest and cooperation of the officers, committees, local societies, and individual membership, during the past year.

Publication and Program

The preliminary program published in this issue of the MONTHLY is the report of this committee. Several features are included. A clinical-pathological conference is listed. There is a panel discussion on the treatment of infectious diseases. Representatives of the American Medical Association will present a symposium on the activities of that Association. Several outstanding guest speakers will address the meeting. About 30 members of the Society have been scheduled for the presentation of original papers. An innovation this year is the elimination of scheduled discussions and a listing of the time for each individual presentation.

The VIRGINIA MEDICAL MONTHLY continues to be a written forum on medical matters with the members of the Society acting as the chief participants. The staff has made an effort to keep the members informed regarding the activities of the Society and the problems of the practice of medicine in Virginia.

M. PIERCE RUCKER, *Chairman*
WYNDHAM B. BLANTON
A. BROWNLEY HODGES
ENNION S. WILLIAMS

Scientific Exhibits

Twenty-two scientific exhibits have been accepted by your committee. All available space will be filled. There are exhibits from both medical schools, various divisions of the State Health Department and medical organizations, in addition to those from individual physicians. All of the arrangements at Virginia Beach are being taken care of by Dr. Eugene L. Lowenberg, a member of the committee and chairman of the local scientific exhibit committee. We are grateful to those who have prepared these exhibits and we hope that the members of the society will show their appreciation by carefully studying each one.

EUGENE L. LOWENBERG
VINCENT W. ARCHER
CHARLES H. PETERSON, *Chairman*

Department of Clinical and Medical Education

The Committee on Clinical and Medical Education has contacted every component society of The Medical Society of Virginia as well as a number of societies which are made up of several component societies. The Committee has had a lot of correspondence and some indications that the program offered by this department would be initiated here and there, but nothing has been done for the last several months.

The present status of activities is that a meeting was held in Tappahannock in April which had the largest

attendance of any meeting that that society has ever had. Three speakers were supplied, who were compensated at the rate of $50.00 each. The local physicians contributed $4.00 a piece, their contribution totaling approximately $100.00, and a balance of $50.00 was paid from the money set aside by the Council for this purpose. This same group is planning a similar meeting in October.

The Committee is already prepared to put on a meeting of this same general type in one of the county societies in southwest Virginia in the fall.

The Committee feels that it will take some time for the value of this type of program to be well known to the average physician of the State, and should like to request that the Society appropriate a similar sum of money again with the idea that what is not spent will revert to the treasury. It is the hope of the Committee that over a period of years, regular post-graduate one-day meetings will be held in various areas of the State several times a year, in order that every doctor in the State will have the opportunity to attend a meeting of this type at least twice a year.

The Committee firmly believes that such meetings properly organized and arranged are an invaluable method of raising the standard of practice in this State.

W. C. CAUDILL, *Chairman.*

Judicial

Several amendments to the Constitution and By-Laws have been offered. These amendments would require the following changes in the Constitution and By-Laws:

Amend Article VI of the *Constitution* so that the first sentence shall read, "The Council shall have charge of the affairs of the Society when the House of Delegates is not in session," deleting the word "business" and the phrase "and shall prepare and present a budget for the ensuing year."

Amend Article VII, p. 2, of the *Constitution* to read, "The House of Delegates shall be the business and legislative body of the Society, and its membership shall consist of the delegates elected by the component societies, the President, the President-Elect, First Vice-President, members of the Council, Past Presidents of the Society, and officers of the American Medical Association who are members of the Society."

Amend Article VIII, p. 2, of the *Constitution* to read, "The Standing Committees of the Society shall be: (1) Ethics, (8) Judicial, (9) Public Relations, (10) Griev- Publication, (2) Scientific Exhibits and Clinics, (3) Department of Clinical and Medical Education, (4) Legislation, (5) Medical Service, (6) Membership, (7) ance, (11) Program, and (12) Finance." This amendment would add a program and budget committee to the Standing Committees.

Amend Article VII, A., Section 4, p. 8 of the By-Laws to read: "The President, in conjunction with the Program Committee, shall prepare the annual scientific program."

Amend Article VII, D., Section 13, p. 9 of the By-Laws to read: "At a time designated by the Program Committee the Executive Secretary-Treasurer shall mail notices to members, asking for papers and shall, under the direction of the Program Committee prepare and send to each member a program of the annual session."

Amend Article IX, p. 11 of the By-Laws to read, "The Standing Committees of the Society shall be as follows: 1. Publication. 2. Scientific Exhibits and Clinics. 3. Department of Clinical and Medical Education. 4. Legislation. 5. Medical Service. 6. Membership. 7. Ethics. 8. Judicial. 9. Public Relations. 10. Grievance. 11. Program. 12. Finance."

Amend Article IX, p. 11 of the By-Laws so that the first sentence of the second paragraph shall read, "Each of these Committees, with the exception of the Department of Clinical and Medical Education, the Committee on Medical Service, the Committees on Legislation, Public Relations, Grievance and Finance shall consist of three members, whose term of office shall be for three years."

In Article IX, Section 1, p. 12 of the By-Laws, delete the words "and Program" in the title of Section 1. Also delete the words "and Program" in the first sentence of Section I. And delete the last sentence of Article IX, Section 1.

Add to Article IX of the By-Laws, "Section 11." The title of this section shall be "Program", and the functions of that committee be described as follows: "The Program Committee shall have charge of the preparation of the annual program."

Add to Article IX of the By-Laws, "Section 12." The title of this section shall be "Finance", and the functions of that committee shall read "The Committee on Finance shall have charge of the finances of the Society and shall prepare and present a budget for the ensuring year to the House of Delegates at its first session. The Committee shall consist of three members whose terms of office shall be three years, one member being appointed annually by the President. The President shall also appoint the chairman. At least one member of the committee shall be from Richmond; the President-Elect shall be an ex-officio member."

In Article X, p. 94 of the By-Laws, delete the words "and Program".

To comply with Article VI and Article VII of the *Constitution,* amend Article VII, B., Section 7, p. 9 of the By-Laws so that the first sentence shall read as follows: "The President-Elect shall be a member of the House of Delegates and a member of the Council." This amendmend would delete the word "ex-officio".

These resolutions have been approved.

HUGH H. TROUT, JR.
N. G. WILSON
J. M. HUTCHESON, *Chairman*

Grievance

One case has come to the attention of the Committee on Grievance during 1951. This case was initiated in 1950 and carried over. On May 6, 1951, the following decision was rendered:

After reviewing the testimony of the complainant, defendant, and witnesses, the Committee is unanimously of the opinion that the charges filed are not proved by the evidence presented, and that such evidence does not indicate that there has been any violation of medical ethics by or any unprofessional conduct on the part of the defendant.

Guy R. Fisher, *Chairman.*

Public Relations

Because of the untimely death of Mr. Henry Johnson, our Executive Secretary, the activities of the Public Relations effort of The Medical Society of Virginia have not progressed with the same momentum during the latter part of this year. It is hoped that with the appointment of a successor our Public Relations movement may again assume its vigorous place in our Society's activities.

As it has been in the past and as it probably shall continue to be, one of the main objectives of the Public Relations Committee for the year 1950-51 has been the development of a public relations program in the component societies of The Medical Society of Virginia. It might be noted that to date, there are 13 local societies listed as having a Public Relations Committee.

Soon after the meeting of The Medical Society of Virginia last October, the Public Relations Committee met in Richmond and outlined at that time certain objectives for the year. Besides the objective to continue the efforts in regard to local public relations programs, it was felt that emphasis should be placed on the role of the individual physician in medical public relations. Therefore, in planning the state-wide public relations conference for the year, the Committee chose the theme "The Practice of the ART of Medicine", which, of course, was centered on the individual physician.

On the 15th of December, 1950, approximately seventy-five physicians from all over the state attended the public relations conference at the Hotel John Marshall, Richmond. The program featured addresses by Dr. Douglas S. Freeman, Virginia's famed historian, and Mr. W. E. Debnam, well-known author and news analyst from Raleigh, North Carolina.

Besides the Members of the District Councils and Chairmen of local public relations committees, the Committee invited the Presidents and Secretaries of local societies to participate in the two panel discussions of that day: "The Patient and the Doctor" and "A Workable Public Relations Program on the Local Level".

Much of the field work in Public Relations had to be dropped in face of the National situation, however, the work of The Medical Society of Virginia in an advisory capacity to Selective Service has been considered a real public relations undertaking. The service rendered in this regard has been in the interest of the medical profession, the Government and the lay-public.

The distribution of literature, of course, has continued, and it is interesting to note the many requests that come from the pharmacists, dentists, hospitals and laymen.

"Current Currents"—the membership newsletter, was published five times between July 1950 and February '51. It is believed that this newsletter can be of real value to the physician who does not have the time to read his journal. The purpose of this publication is to bring to the doctor's office the goings-on in the State Society and in A.M.A.; to call attention to items of general interest such as legislative measures that need support or opposition, A.M.A. membership and fellowship dues, suggested reading, work of committees, etc.

Speaking engagements throughout the State have not been as numerous as in other years, however, the Committee feels complimented by the many out-of-state requests for speakers and literature regarding the medical public relations program in Virginia.

A recent publication by the Public Relations Department of the American Medical Association carries a reprint of the study made several years ago by Dr. John T. T. Hundley, President-Elect of The Medical Society of Virginia. Dr. Hundley was invited to present his paper at the Third National Medical Public Relations Conference held in Cleveland last December.

Matters of concern in the legislature in Washington have been kept before the officers of the Society through the publication of the Washington Office of A.M.A. The Senators and Representatives from Virginia have been advised regularly of the position of The Medical Society of Virginia in regard to certain proposed bills. The response of these Congressmen to support the interests of the medical profession has been gratifying.

More and more the physician himself is taking part in the call to hear Medicine's point of view. Their willingness to respond to requests for speakers has indeed made its impression on the lay-public. Medicine has been represented this year on two forums of the Virginia Chamber of Commerce; at the Woman's Club of Richmond; at civic and service clubs; on the radio; before Junior Woman's Clubs; Church groups, etc. The Public Relations Committee is proud of this response of the individual physician to his role in the public relations of the profession.

J. M. Emmett, *Chairman.*

Membership

All members admitted to this Society this year through component societies are as follows:

Dr. Richard Jenks Ackart, Charlottesville
Dr. Horace Allen Albertson, Roanoke
Dr. Paul Gerhard Albrecht, Charlottesville
Dr. John Hamilton Allan, Charlottesville
Dr. Elton Meredith Alrich, Charlottesville
Dr. William Clayton Anderson, Jr., Winchester
Dr. Harry Paul Austin, Pearisburg
Dr. Albert Adgate Bailey, Tabb
Dr. John William Barnard, Louisa
Dr. Melvin Gillette Baynard, Franklin
Dr. Ralph Gregory Beachley, Arlington
Dr. James Duncan Beaton, Gretna
Dr. Robert Payne Beckwith, Jr., Richmond
Dr. Irving Berlin, Newport News
Dr. Charles Arnold Bohrer, Arlington
Dr. Lewis Hinton Bosher, Jr., Richmond
Dr. Charles Bunyan Bray, Jr., Roanoke
Dr. Catherine Harman Brewer. Louisa

Dr. Stanley Woodruff Burwell, Lynchburg
Dr. Raymond Kenneth Butler, Front Royal
Dr. William Dimmock Buxton, Charlottesville
Dr. Charles William Byrd, Richmond
Dr. Joseph Daniel Casolaro, Arlington
Dr. Edward Philip Cawley, Charlottesville
Dr. Roy Eugene Christie, Roanoke
Dr. George Nathan Chucker, Monterey
Dr. Lyndon Myers Conley, St. Charles
Dr. Claude Everett Cooper, Annandale
Dr. Jerome A. Cope, Arlington
Dr. William Arthur Cover, Big Rock
Dr. Dorris Alvin Cunningham, Charlottesville
Dr. Geoffrey William Curwen, Ashland
Dr. William Frank Daughtrey, Jr., Courtland
Dr. Edward Garland Davis, Jr., Richmond
Dr. William Miller Dick, Hampton
Dr. Charles William Docter, Amonate
Dr. Clyde Hudson Dougherty, Hopewell
Dr. Lester Edward Dunman, Pearisburg
Dr. Edwin Marion Eastham, Jr., Front Royal
Dr. Rufus Purdum Ellett, Jr., Roanoke
Dr. Milton Ende, Petersburg
Dr. Lester Irving Fox, Ft. Monroe
Dr. Joe Lee Frank, Jr., Norfolk
Dr. John Raymond Freeman, Cape Charles
Dr. James Cofer Gale, Roanoke
Dr. William Miller Gammon, Bristol
Dr. Alfred Randolph Garnett, Norfolk
Dr. Henry Charlton Graybeal, Christiansburg
Dr. William Franklin Grigg, Jr., Richmond
Dr. Joshua Jack Grizzard, Jr., Branchville
Dr. Clark Henry Hagenbuck, Roanoke
Dr. George Southey Hankins, Newport News
Dr. Walter Tillou Henderson, Jr., Richlands
Dr. James E. Henney, Charlottesville
Dr. Kathryn Dodds Hill, Virginia Beach
Dr. Charles Bullard Hooker, Roanoke
Dr. John Williams Hooker, Danville
Dr. Robert Steele Hutcheson, Jr., Roanoke
Dr. Edward Palmore Irving, Petersburg
Dr. Harold Maurice Jackson, Leesburg
Dr. Robert William Jessee, Independence
Dr. Marcellus Alexander Johnson, III, Roanoke
Dr. Charles Robert Jones, Dorchester
Dr. Paul Sadler Kemp, Falls Church
Dr. Henry Allen Kinser, Pennington Gap
Dr. James Sidney Kitterman, Norfolk
Dr. Seymour J. Kreshover, Richmond
Dr. Howard Israel Kruger, Norfolk
Dr. Henry G. Kupfer, Richmond
Dr. Anne Liese Lee, Norfolk
Dr. Parker Hall Lee, Jr., Lynchburg
Dr. Ilse Lehmann, Burkeville
Dr. Edward David Levy, Norfolk
Dr. Augustine Warner Lewis, Jr., Aylett
Dr. Vernon William Lippard, Charlottesville
Dr. George Hunter Long, Luray
Dr. Charles Hamilton Lupton, Jr., Charlottesville
Dr. Sidney Lyons, Arlington
Dr. Harry Pearce Maccubbin, Winchester
Dr. Claude Duval James MacDonald, Norfolk
Dr. Berkeley Hancock Martin, Jr., Richmond
Dr. Robert Earnest McAlpine, Norfolk
Dr. John Houston McClung, Glasgow
Dr. Walter Copley McLean, South Hill
Dr. William Howard Michael, Suffolk
Dr. Maurice Jesse Miller, Norfolk
Dr. Robert Treadwell Miller, Arlington
Dr. Robert Hartwell Mitchell, Arlington
Dr. Marvin Pinckney Moore, Roanoke
Dr. Cardwell Camden Nuckols, Charlottesville
Dr. Kay Norman Ostergard, Arlington
Dr. William Graham Painter, Jr., Mt. Sidney
Dr. Richard Emery Palmer, Alexandria
Dr. William Milholland Patterson, Charlottesville
Dr. William Dunlap Poe, Roanoke
Dr. Drake Pritchett, Danville
Dr. Charles Holland Rawls, Suffolk
Dr. Arnold Joseph Rawson, Norfolk
Dr. Fred Taylor Renick, Martinsville
Dr. Joseph Megeath Rogers, Leesburg
Dr. Leslie William Rose, Jr., Richmond
Dr. Hugo Anthony Sacchet, Clifton Forge
Dr. Charles Wilson Schiffert, Fordwick
Dr. Robert Gwynn Schultz, Harrisonburg
Dr. Cyril Iredell Sease, Jr., Harrisonburg
Dr. John Greaton Sellers, Norfolk
Dr. Gordon Edward Shull, Stonega
Dr. Nelson Montgomery Smith, Petersburg
Dr. Clyde Vaughan Stanley, Jr., Stanleytown
Dr. Selwyn Ladenberg Steel, Norfolk
Dr. Carey Addison Stone, Jr., Pearisburg
Dr. George Foster Sutherland, Big Stone Gap
Dr. James Albert Thompson, Jr., Marion
Dr. Donald Sylvester Thorn, Alexandria
Dr. William Preston Tice, Roanoke
Dr. Robert Browning Venner, Virginia Beach
Dr. Maurice Sidney Vitsky, Richmond
Dr. Frank Alton Wade, Richmond
Dr. William Watkins Walton, Pulaski
Dr. George Hugh Warren, Smithfield
Dr. Andrew John Welebir, Arlington
Dr. Leonard Rudolph Wells, Jr., Ewing
Dr. Clayton Eugene Wheeler, Jr., Charlottesville
Dr. Forrest Prettyman White, Norfolk
Dr. William Benjamin Wild, Harrisonburg
Dr. Jean Fennell Wine, Harrisonburg
Dr. James Marshall Winkfield, Strasburg

The names of deceased members will be presented to the Society at the Monday evening meeting.

Your committee has made a study of conditions in the state of Virginia similar to the one made the year before with the following findings:

Registered in Virginia as of 7-1-1950:		
Medicine and surgery	2,627	
Homeopathy	15	
Total		2,642
Less those listed as living out of state and licensed in Virginia		55
Balance		2,587
Less colored doctors registered and living in Virginia		147
Balance		2,440
Members of state medical society exempt from dues	306	
Members of state medical society living in Virginia and paying dues	1,742	
Total		2,048
Difference in the two above figures 2,440 and 2,048		392

Your committee takes pleasure in recommending for honorary membership our distinguished retiring president, Dr. C. Lydon Harrell of Norfolk.

J. FRANKLIN WADDILL
B. E. HARRELL
A. M. SHOWALTER, *Chairman*

Medical Service Committee

Two meetings of this committee were held during the past year. The first meeting was devoted primarily to

setting up the eight appropriate sub-committees authorized by the House of Delegates of the Medical Society of Virginia in Roanoke in October of 1950. Certain members of the Medical Service Committee were assigned to each of these sub-committees in the hope that they would serve as a nucleus about which other men could be appointed and the necessary work accordingly accomplished. In the annual report of 1950 these eight sub-committees were enumerated as follows: Pre-payment Health and Hospital Insurance, Rural Health, The Chronically Ill, The Medically Indigent, Federal Health Programs, Child Health, Industrial Health, and Health Councils.

The imminence of the sixth national conference on Rural Health made this a matter of more urgent importance and accordingly, Dr. Graziani was designated as the committee member to attend this conference representing the Medical Service Committee. Funds for his trip had been appropriated by the Council in the budget for the current year. Dr. Graziani attended this conference held in Memphis, Tenn., on February 23rd and 24th of 1951. As a result of Dr. Graziani's report to the Committee as a whole the Committee makes the following comments relative to Rural Health:

The Committee wishes to stress the concepts that must be clearly defined in discussions with lay groups concerning medical care, health, and the obtaining of physicians for rural areas.

Medical care is the professional service sold by physicians in the diagnosis and treatment of disease, whereas, health, in contra-distinction, is the sum total of effort put out by community and individual in the attempt to maintain a state of well-being. This may be illustrated by the role played by the individual physician in the diagnosis and treatment of malaria as contrasted to the effort displayed by the individual and community in the control of the anopheles mosquito.

It is further important that we realize that local health problems should be solved at the community level. This can best be accomplished by local health councils or their equivalents.

The attraction of physicians to rural areas follows socio-economic laws of trading centers, actual need, the presence of good roads, time permitted for recreation and study, and the actual desirability of that particular community as a place in which to live and rear a family. Help in obtaining physicians in the rural area may be obtained through the Virginia Council on Health and Medical Care. In this regard a survey, which will be referred to in other Committee reports, will call attention to the fact that some thirty-three counties in the State were in need of additional physicians. Plans to study in detail those factors which would influence the doctor in settling and succeeding in an area of theoretical need are in being and should be pursued to completion. Such pilot studies will be essential to the more widespread application of good planning in attracting physicians to these areas of need.

In accordance with the resolution passed by the House of Delegates of the Medical Society of Virginia in Roanoke in 1950, the Medical Service Committee has made an effort to study pre-pay hospital and medical care plans in the effort to bring in a specific report for consideration of the medical society at this annual meeting. A subcommittee headed by Dr. Buxton considered this situation thoroughly and corresponded extensively prior to a meeting which they held in Lynchburg, June 16th. This meeting was attended by representatives of a number of commercial insurance companies together with the Directors of the Blue Shield-Blue Cross programs in Richmond and Roanoke and other interested personnel relative to these non-profit plans. Widely divergent expression was heard relative to all aspects of the problem. The discussion was materially assisted by a representative of the Council on Medical Service of the A. M. A., in the person of Mr. Howard Brower, who was able to give us much data relative to the approach made in other states to this problem and plans which they have in effect. The Committee as a whole discussed the report of the sub-committee and the following points should be brought forward: (1) The Medical Society must make increasing effort to secure more widespread coverage of the citizens of the state through pre-pay hospital and medical care plans both through commercial and non-profit plans. (2) Group coverage is without question the cheapest and most generous form of pre-pay hospital and medical care insurance. (3) There should be no real fight between the commercial and non-profit plans as both are essential in reaching the citizens of the state and each has its place in offering a solution to this problem. (4) It is imperative that more direct effort be made to educate the patient and physician in these essentials of a desirable policy relative to pre-pay hospital and medical care. In this regard it is desirable that the specific waiting period for coverage of pre-existing illness be standardized and that recognized minima be stressed in order to adequately and without unnecessary delay scrutinize the proposed plan. (5) Medical and hospital care of the indigent is an obligation of the doctor, the hospital, and the public, and should be financed by tax funds and private gifts. (6) It is felt that considerable additional study of plans in existence and the results obtained under them together with their possible application in our state should be continued. It is likely that in the future some way can be found to materially broaden the plans available in the state through such study. However, at all times it is essential that the Society guard against any action which would place it in the insurance business or allow other agencies to usurp its good name. It is probable that a supplementary report outlining certain of the desirable minima together with informational material for distribution to the membership may be presented.

Finally, considerable general discussion was engaged in relative to the other activities of the profession which are the concern of this committee but with which we dealt lightly. The Council on Medical Service is actively entering into a number of other programs which in the

future should be studied and passed on to the membership of The Medical Society of Virginia. It is hoped that in the ensuing year the organization of the subcommittees can be better effected and that more information will be analyzed and made available to our membership.

Respectfully submitted,

RUSSELL BUXTON
WALTER B. MARTIN
M. H. HARRIS
JOHN G. GRAZIANI
SNOWDEN C. HALL, JR.
H. B. MULHOLLAND
HAROLD MILLER
J. P. WILLIAMS
JOHN O. BOYD, JR., *Chairman*

Ethics

The Ethics Committee has had only one matter referred to it for consideration. The matter of "kickbacks", which was publicized widely, in the Spring was referred to the Ethics Committee by the President for study and a report was made to the Council. The Council directed the Ethics Committee to make further investigation and report back the findings. The final report of the Ethics Committee on the matter of "kickbacks" will be presented to the Council at its pre-convention meeting in October.

H. H. HURT
K. D. GRAVES
M. H. HARRIS, *Chairman*

Legislative Committee

The Legislative Committee has no report to offer at this time.

J. D. HAGOOD, *Chairman.*

Cancer

The Cancer Committee, at the request of several Tumor Clinic directors, reviewed the fee schedule for x-ray therapy by which the Virginia Division of the American Cancer Society reimburses the Clinics for services to medically indigent patients. The Committee recommended to the Society that it pay three dollars per treatment up to a maximum of forty dollars for a series of consecutive treatments. The present maximum is thirty dollars.

For some years, the Virginia Division of the American Cancer Society has paid administrative costs of Tumor Clinics approved by this Committee. The Society requested the Committee to approve transfer of these costs to the Bureau of Cancer Control of the State Health Department. The position of the Society was that it could meet costs for this type of project only while in an experimental stage. As the Tumor Clinics are now a well established part of the Virginia public health system and as the Health Department has funds for the purpose, the Cancer Society considered its role in the Tumor Clinics completed. The Committee agreed with this reasoning, and approved the new policy, with the addition that the Tumor Clinics approved by the Committee may apply to the Cancer Society for support of needs not met by the Health Department.

The Committee noted the fact that the Medical Society has not been able to find a physician to fill the post of traveling cancer teacher in the program financed by a $20,000 grant from the Virginia Division of the American Cancer Society. The Committee suggested that consideration be given to asking outstanding authorities to visit the State for two or three weeks' lecture tours if no one can be found soon to carry out the original program.

The Cancer Committee has received resignations from three previously approved Tumor Clinics—The Peninsula Clinic, and the clinics at Petersburg and Winchester. Review of the other clinics was postponed pending a report from the American College of Surgeons' inspector.

Respectfully submitted,

ARTHUR B. GATHRIGHT, JR.
JOS. W. HOUCK
C. LYDON HARRELL
ALFRED P. JONES
JOHN R. KIGHT
EDWIN P. LEHMAN
J. R. PEARSALL
MASON ROMAINE
HARRY J. WARTHEN
GEO. Z. WILLIAMS
HERBERT D. WOLFF, JR.
GEORGE COOPER, JR., *Chairman*

Poliomyelitis

Up to the present time, there has been no meeting of the Committee on Poliomyelitis.

The Board of Health of the State of Virginia reports that there has been up to now only 25 per cent of the number of cases reported as at this time last year.

L. E. SUTTON, JR., *Chairman.*

To Confer with the State Board of Nurse Examiners

The following points were discussed by your Committee at a meeting on June 21, 1951, with a committee from the State Board of Nurse Examiners composed of: Miss Mabel Montgomery, Miss Mary Louise Habel, Miss Mary Jane McCone, Mrs. Elizabeth Styron, and Mrs. Alice Nelson.

1. NURSE RECRUITMENT:

It is the feeling of this committee that the best results in recruiting student nurses is at a local level through the training schools of the various hospitals. This can best be accomplished by sending out representatives from the hospitals to give talks and show movies to various groups of the junior and senior High School age. It was recommended that the best time for such recruitment is in the fall and early winter.

2. MORE EFFICIENT USE OF PERSONNEL:

It is the concensus that the physicians in this state could accomplish a great deal in making more nurses

available by only using nurses for private duty when absolutely necessary and to make it a point to remove private duty nurses from all cases as quickly as possible. From the hospital standpoint, it is felt that no nurse should be used for administrative positions which could be filled by technicians, clerks, maids, etc.

3. Nurse-Physician Relationship:

It was pointed out by the State Board of Nurse Examiners that in many hospitals the relationship between the physician and the nurse is quite poor and that this poor relationship is one reason that graduate nurses prefer other branches of the nursing profession rather than to remain in hospitals. In order to improve this condition, physicians are urged to be more tolerant of the hospital nurses. It was also agreed by both this committee and the nurses present, that classroom teaching by members of the medical profession for the nurses would be of a great deal of benefit to both the nurse and the physician.

4. Nurse Curriculum:

There has been a great deal of criticism of the student nurse curriculum by the medical profession and it was shown that the present minimum requirements for theoretical studies in this State are at present lower than they have been in the past and also, that more emphasis has been placed on and more hours allotted to bedside nursing. It was further stressed that, unless these minimum requirements were met in this State, nurses graduating from our schools would not be able to obtain reciprocity in other states.

5. Practical Nurses:

From all viewpoints, the simplest and quickest way to increase the number of nurses for bedside nursing is to increase the size of practical nursing schools already existing and by the establishment of new schools throughout the state in hospitals that are suitable to train practical nurses. The period of training practical nurses is one year and a portion of the cost of this training can be covered through the State Vocational Educational Training Act. This seems to be the most practical way to quickly increase the nursing service in this State.

6. Future Education of Nurses:

Various changes have been suggested in many parts of the country in regard to shortening the time of service in hospitals for student nurses so that there would be three types of nurses, the professional nurse, the graduate nurse, and the practical nurse. In this set-up the graduate nurse would be only required to spend two years in the hospital for training, and the professional nurse would obtain further education in college leading to a degree in nursing. While such a change may be necessary and possibly will come to pass, the change cannot be made until various State legislatures change the license requirements for nurses and until all States agree on the same requirements for all types of nurses. For this reason it was felt that any major change in the education of the student nurse would not be practical at this time.

Frank Johns
John Shackelford
Russell Buxton, *Chairman*

Venereal Disease Control

The Venereal Disease Control Committee views with considerable satisfaction the steady downward trend of the venereal disease rates for the past three years. For example during the first three months of 1951 the morbidity was 12 per cent below a similar three-month period in 1950. That this is probably a reflection of actual trend is shown by the fact that the number of serologic tests for syphilis during the 1951 period was greater by 500,000 while the number of cases reported decreased. The Fifth Naval District now reports its lowest recorded incidence (17 per 1,000 per annum).

Leaders in the field now speak of maintenance control (i.e., of holding the gains to the present levels of discovery rate of 20 per 100,000 population). This theoretically should limit effectively the spread and may be the irreducible minimum that can be obtained short of the development of a vaccine. They point out, however, that complacency and relaxation of effort at this point would be disastrous. Moore mentions that in the long range study of syphilis similar downward trends have been noted (i.e., after World War I), yet the venereal diseases reappeared to become public health problem number one during World War II. The committee therefore strongly recommends that case finding activities be continued as vigilantly as ever, and that retrenchment may mean recrudescence of these diseases particularly as we again mobilize and vast population shifts again take place.

At this low incidence of venereal disease, most effort at maintenance control should be directed toward epidemiologic investigation to ferret out sporadic reservoirs as well as to stress the availability of venereal disease services rather than toward routine blood testing except in groups of potentially high venereal disease incidence.

Specific activities and problems investigated by the committee this year:

1. Since considerable confusion exists as to the interpretations (particularly quantitative) of the blood serologic tests for syphilis both in diagnosis and treatment, the committee published in the Virginia Medical Monthly (May 1951) a brief resumé of our present-day knowledge concerning this subject.
2. During the past two years considerable interest has been manifested in the Treponema Immobilization Test which is apparently more specific than the routine serologic tests in the diagnosis of syphilis. The committee on investigation feels that this procedure is still not adaptable for routine use since it requires for its performance freshly isolated spirochetes, strict asepsis and anaerobiosis. Until the test is simplified it should be confined to research laboratories.
3. The State Health Department is prepared to perform

tests on filter paper strips saturated with blood (primarily in cases of congenital syphilis). At least 0.2 cc. blood must be obtained. It should be pointed out that there is considerable question concerning the accuracy of this procedure as apparently a high percentage of false negative tests are being obtained. (Johnwick.)

4. The consultative services set up at the Medical College of Virginia and the University of Virginia School of Medicine have been discontinued as this service has been utilized so infrequently that it was deemed unnecessary. The State Health Department is considering the possibility of designating regional consultants who would be available for consultation if requested.
5. The committee has followed with considerable interest the studies both by civilian and military on the use of penicillin by injection or orally as a prophylactic in instances of potential exposure to venereal disease. While most studies indicate probable preventive value, the committee feels that it would prefer to defer opinion until dose schedules and long range effects are more properly evaluated.

Respectfully submitted,

HARRY PARISER, *Chairman.*

Conservation of Sight and the Prevention of Blindness

1. Much good has been accomplished in the schools by testing the vision of the children, and your Committee recommends that this practice be extended so that the vision of every school child can be tested. Visual acuity charts should be furnished each and every school, and the teachers should be instructed how to make the test. By and with the cooperation of the Lions Clubs of Virginia, there is hope to believe that charts will be furnished free of charge to the schools.

2. Too often patients are examined for squint, and have been told that they will outgrow the condition. We recommend that means and ways be instituted, to reach the General Practitioners at least once a year, to give them some knowledge of the progress of Ophthalmology, and be instructed to advise a patient with any eye condition (which is not normal) to consult an eye physician, and not wait for something to outgrow itself which, in 95 per cent of cases, it will not.

3. What has been stated with reference to the squint, also pertains to anything which might be wrong or apparently wrong with the eyes. Delay will and has caused blindness in the past and, if not complete blindness, certainly great impairment of vision.

4. Your Committee recommends that Pharmacists cease prescribing to those who wish something for the affection or infection of the eyes. Too often we find harm resulting from such reprehensible practices.

5. Many eye affections are insidious, and the vision has been impaired, when prompt attention would save all or part of the vision. Glaucoma will frequently be overlooked unless those who have an opportunity to examine these cases are Glaucoma conscious. Unexplainable headaches, dimness of vision, halos around lights, spots in front of the eyes, flashes of lights, pain in the eyes, oftentimes waking the patient up in the middle of the night, should be a warning to consider Glaucoma.

6. There are entirely too many injuries to the eyes, and your Committee recommends that in the near future a Symposium on "Eye Injuries in the Industries" be held. Such a program would undoubtedly do much in helping to eliminate many eye injuries.

Committee:

C. C. COOLEY
E. G. GILL
W. W. GILL
RUDOLPH THOMASON
A. A. BURKE, *Chairman*

Industrial Health

With the increasing demand for workers, we should, like the Pediatricians, devote much attention to keeping our clientele well. Standard health efforts from prophylactic inoculations all the way through to mass treatment of various occupational diseases, prophylactic and curative, will lessen days lost and increase industrial output.

Strains, even rupture of fascial fibres, need watching and care instead of dismissal with a negative X-ray. Mobilization and later stretching techniques bring comfort and cure. Steroid metabolism needs study and high protein low carbohydrate diet with adrenal cortex and large doses of colchicine are effective. For women workers, the monthly upsets are also benefited by this diet, especially the fat group. For women, such as phone workers, long maintenance of one position is benefited and often cured by manipulation and later stretching of the involved structures.

Fitting the very young, the old of whom we have so many, the arrested tuberculars, the rheumatic in dry equable temperatures, and the cardiacs, arteriosclerotic, the hypertensive and even the coronaries, and the periodic alcoholic cured sometime by a wholesome environment,—these are challenges, and good medical selection, placement and watching will do much for them and industry.

In the field of mental attitudes, vigilance may prevent breakdowns, if the time and patience to hear the long stories and attack the problems with interest and skill all the way up to tactful referral of some to the psychiatrists. There is a vast field here bringing a long list of complaints from heart trouble, backache to depressions. The accident prone may be found rooted in heredity, family trouble, dissensions with fellow workers or foremen. Much can be done for all of these.

T. J. TUDOR, *Chairman.*

Tuberculosis in Institutions

At the request of Dr. C. L. Harrell, President, the Committee agreed to study the conditions as related to tuberculosis in the State Mental Institutions and those under the Department of Welfare and Institutions, the

latter including the State Penitentiary, State Farm, the jails and City Jail Farms.

Dr. C. L. Harrell, Dr. Alfred L. Kruger and the Chairman met in Williamsburg on June 24, 1951, with Dr. Joseph E. Barrett, the Commissioner and Dr. Granville L. Jones, Superintendent of the Eastern State Hospital. A full report of the activities of the entire hospital set-up was furnished by Dr. Barrett and inspection of the local facilities at Williamsburg was made.

We were pleased to find that Dr. Barrett had instituted an adequate control program for tuberculosis. Each new admission receives chest x-rays and an annual survey is made by the State Health Department and in addition, any patient suspected of having disease is checked with a serial x-ray films. The patients are isolated at the present time and receive bed rest only.

There has been no program of specific treatment, either in the form of collapse therapy or drug therapy for the tuberculous patients.

It is the feeling of the Committee that specific treatment should be available to the tuberculous patients in the mental institutions. The ideal situation would be to have a physician in charge of tuberculosis for the various hospitals; however, we understand that Dr. Barrett has been unable to obtain a qualified physician for this purpose. It is our recommendation that consultant physicians be obtained on a part-time fee basis to serve the various mental institutions and to set up a satisfactory tuberculous treatment program. Your committee would be glad to cooperate with the Director of the Department of Mental Hygiene in securing consultants for the various hospitals.

The Department of Welfare and Institutions maintains a tuberculosis hospital at the State Farm, Virginia, for the care of the tuberculous inmates of the penitentiary system. This hospital, also, receives and cares for certain incorrigible patients who have been committed there under state law. The Department of Corrections utilizes the services of a consultant in the Diseases of the Chest on a part-time basis.

At the State Penitentiary, all new admissions receive an x-ray of the chest. At the State Farm and at the other institutions x-rays are taken when history or physical findings seem to indicate. It is recommended that an annual photo-fluorographic x-ray survey be made of all of the inmates, to include the road camps and this be done on a yearly basis.

The jails and jail farms in Virginia would seem to warrant careful attention. During the year of 1950 a total of 99,179 individuals were committed to county, city jails and jail farms. While some of the jails are quite small and in remote areas, the possibility of admission x-rays is obviously out of the question, in all cases; however, it would appear feasible that the County Health Department consider including the jail population in the public health and other x-ray surveys that are made from time to time throughout the year.

The Richmond City Jail and the Norfolk City Jail offer an opportunity for the use of x-rays on all admissions. The Richmond City Health Department and the Medical College of Virginia Out-Patient Department is willing to cooperate in making available a photo-fluorograph x-ray on all admissions to the jail and to furnish an annual survey of the total population.

Dr. Kruger and Dr. Harrell have visited the Norfolk Jail and they feel that a photo-fluorographic unit might well be established in the institution and used to advantage.

It is the feeling of your committee that the Richmond City Jail and the Norfolk City Jail be used as a study and that the other larger jails might later be added. We, therefore, recommend that an agreement be reached with the Medical College of Virginia and the Richmond City Health Department and the jail authorities in Richmond to the end that all new admissions receive chest x-rays and that annual survey films be made of the entire population. We, also, recommend that effort be made to install a photo-fluorographic unit in the Norfolk Jail.

Respectfully submitted,

Alfred L. Kruger
W. J. Ozlin
Charles L. Savage
F. F. Oast
George A. Welchons, *Chairman*

Maternal Health

The Committee on Maternal Health met at the office of The Medical Society of Virginia, 1105 West Franklin Street, Richmond, July 31, 1951. Eight of the nine members were present. A representative from the Virginia Obstetrical and Gynecological Society and the Richmond Obstetrical and Gynecological Society met with the Committee.

A summary from the Bureau of Vital Statistics for the year 1950 showed that there were:

Live Births	81,986
Premature Births	6,423
Stillbirths	1,947
Maternal Deaths	84
Maternal Death Rate per 1,000 Live Births	1.0

There has been a gradual decline in the maternal death rate from 5.8 per 1,000 live births in 1936; 3.8 in 1941; 1.7 in 1946 and 1.0 in 1951. The rate for the United States, 0.8 in 1949, the last year that the national figures were available, has been consistently lower than the State's rate.

The clinic activities of the Bureau of Maternal and Child Health of the State Department of Health showed:

Admissions to Clinics	
Prenatal Patients	9,046
Post-partum Patients	3,747
Clinic Visits	
Prenatal Patients	42,189
Post-partum Patients	6,597
Cases Hospitalized	
Obstetric	1,002
Pediatric	764

The study of maternal deaths is being continued. It was the consensus of the committee that this has been a factor in the evident improvement in obstetric care.

The committee went on record as urging the pregnant patients having tuberculosis be given the admission status of surgical cases at State sanatoria. A request to this effect was made by letter directed to the Chairman of the State Board of Health.

Progress was noted as having been made in the improvement of clinic quarters for services to obstetric patients. It is worthy of comment that some of the new health centers have been built as parts of local hospitals with which working arrangements have been established.

The International Recommendations on Definitions of Live Birth and Foetal Death were discussed but action was delayed for further study.

EDWIN RUCKER, *Chairman*
A. L. CARSON, JR.
G. N. CARTER
A. M. GROSECLOSE
JOHN M. NOKES
C. A. NUNNALLY
L. L. SHAMBURGER
PAGE G. THORNHILL

Mental Hygiene

For many years the Mental Hygiene Committee of The Medical Society of Virginia has sent in resolutions, describing mental hygiene needs throughout the state, and suggesting changes of attitude by physicians toward personality disorders, as well as detailing better ways in which the emotional and mental diseases could be handled.

The present committee was appointed by the President with instructions to attempt to do more than just to write a report. The President was quite anxious that some practical methods be found to make the committee mean more to the members of the Society. With this in mind, the committee has been active throughout the year.

A Conference on the Treatment of Emotional Disorders was held on March 23 at the University of Virginia, in conjunction with the Medical School of the University. Plans have been made to offer speakers to localities desiring post-graduate education in the treatment of personality disorders. It was decided also to hold a panel discussion on the treatment of personality disorders at the time of the Annual Meeting at Virginia Beach. It was also decided that instead of resolutions, each member of the committee would survey his own community in regard to the local facilities for the treatment of personality disorders. An attempt was made to have these reports factual and as unbiased as possible. The following items were given special consideration:

A. Hospital facilities.
B. Clinical facilities.
C. Attitude of private physicians.
D. Availability of psychiatrists.
E. Availability of psychiatric hospitals.
F. Community attitude toward emotional disorders and mental hygiene.

Under "community attitude", Mental Hygiene Society, Child Guidance Clinic, Juvenile Court, Welfare, availability of social service, and care of psychiatric patients in the community were included where pertinent.

It is impossible in this report to give the result of each member's survey in its entirety, so a summary is given which will point out which communities have gross handicaps, and those in which the situation is favorable for better treatment. It is hoped in this way to make the needs of certain communities outstanding, so that they can be met, perhaps in part by taking advantage of the more favorable situation in other communities.

ALEXANDRIA

A. *Hospital Facilities:*

There are no hospital facilities in Northern Virginia for the care of the mentally ill. Most of the cases requiring hospitalization are taken to facilities at George Washington University or DeJarnette's Sanatorium in Staunton. In certain instances the University of Virginia Hospital facilities are used.

B. *Clinic Facilities:*

There are mental hygiene facilities in Fairfax and Arlington Counties, and in Alexandria. These clinic facilities are greatly overtaxed and far from meeting the needs for adequate study and treatment. Personnel has not been constant, but in the main has been satisfactory, except for the fact that the personnel is greatly overworked to care for the increasing number of cases which require attention.

C. *Attitude of Private Physicians:*

The private physicians in the Northern Virginia area are becoming more conscious of the needs for adequate diagnosis and treatment for the mentally ill patient. The medical societies have included in their programs for the year talks by well trained psychiatrists. The staffs of the general hospitals in the area have consulting psychiatrists who are available for problems which arise in the course of general hospital care. The staff of the Alexandria Community Clinic has had a number of psychiatric symposiums during the year as part of their regular monthly luncheon meetings. These activities reflect the interest of the private physicians in this area and have done a great deal to stimulate interest generally in these problems.

D. *Availability of Psychiatrists:*

The Northern Virginia area has available a number of well trained psychiatrists in the metropolitan area. However, all of these are Washington physicians who are quite busy and attempt to do their best to meet the needs of the area.

E. *Availability of Psychiatric Hospitals:*

Availability of psychiatric hospitals was partly covered under "A." There are no psychiatric hospitals in this area, and the community has to depend on the available facilities throughout the state.

F. *Community Attitude toward Emotional Disorders and Mental Hygiene:*

The community attitude toward emotional disorders and mental hygiene has been greatly aided by the Mental Hygiene Society of Northern Virginia, as well as the efforts of interested private physicians and laymen. The Community Welfare Councils and The League of Women Voters have been particularly interested in promoting facilities for Child Guidance Clinics, Juvenile Courts, adequate welfare aid, and social services, as well as the care of psychiatric patients in the community. The interest of the community in general is being continuously stimulated as the needs are pointed out through the press and other means of public communication.

BRISTOL

A. *Hospital Facilities:*

There is no available space in present hospital, nor in the new one under construction, for treatment of personality disorders. The hospital will not take this type of case, as they are not set up to care for them. Should such a case get into the hospital, they are required to have special nurses around the clock, which makes it almost prohibitive financially.

B. *Clinic Facilities:*

Neither Bristol nor this section has any clinic for personality disorders. There is no psychiatrist in this territory, and therefore no one to take the initiative in setting up one. A clinic of this type is badly needed, to round out complete medical service.

C. *Attitude of Private Physicians:*

Private physicians tend to shy away from personality disorders for several reasons, mainly, however, because they are not trained to cope with patients' symptoms, and also because there are no hospital facilities available. Private physicians are not antagonistic toward this type of patient; they would like to help, but feel at a loss about doing it.

D. *Availability of Psychiatrists:*

There are no trained psychiatrists for 100 miles in one direction to 125 miles in another. This roughly encompasses an area of about half a million people, so the need for this type of service is very great.

E. *Availability of Psychiatric Hospitals:*

There is a State Hospital at Marion, Virginia, which is 50 miles from Bristol. There is also a Tennessee State Hospital at Knoxville, Tenn., which is about 125 miles away. Patients are often committed to these institutions from Bristol, but they do not reach a vast number of personality disorders, in cases where people hesitate to take on the stigma of a state hospital.

F. *Community Attitude toward Emotional Disorders and Mental Hygiene:*

Bristol is very alert to this crying need. Several meetings were held this past winter with the aim in view of educating the mass of people as to needs along this line. Several clubs could be interested in promoting this work. Someone is needed to head up the movement, and it is suggested that the logical person for such an endeavor would be a trained psychiatrist, who would have here a virgin field in which to work.

CHARLOTTESVILLE

A. *Hospital Facilities:*

In the Charlottesville area there are two general hospitals, the Martha Jefferson and the University of Virginia Hospital. The former has 60 beds and the latter approximately 500. Both hospitals accept emotionally disturbed patients on their general wards. At the University of Virginia Hospital there are two closed wards of 20 beds each for white men and women. There are no facilities for treatment in the hospital of disturbed children under the age of fourteen. There are no facilities for colored patients with active personality disturbances. Disturbances of minor nature are taken care of in the open wards for colored people at the University of Virginia Hospital.

B. *Clinic Facilities:*

There is an active Outpatient Department in the University of Virginia Hospital. Minor emotional problems are handled by a number of different departments. The majority of these cases, as well as those more disturbed, are referred to the N. & P. Outpatient Clinic which conducts a very active service for patients coming from Virginia, North Carolina, Tennessee, and West Virginia.

In the community, but definitely related to the University of Virginia Hospital, is the Children's Service Center, which receives the majority of its patients from Charlottesville and Albemarle County, but can take an occasional patient from outside this area.

The University of Virginia offers a clinic for the correction of speech difficulties, and also one for the correction of reading handicaps. These clinics are available to anyone in the state and are used frequently in the correction of emotional disorders.

C. *Attitude of Private Physicians:*

The private physicians in the community are interested in the personality disorders and handle a great many of them. The supply of psychiatric service is so limited that they are forced to refer only the more severe cases to the Department of Neurology and Psychiatry at the University of Virginia Hospital.

There is still a tendency among a great many physicians to ignore the needs of the total personality in the treatment of their patients.

D. *Availability of Psychiatrists:*

There are six psychiatrists on the clinical staff at the University of Virginia Hospital. There are seven resident physicians in psychiatric training. Five members of the clinical staff are engaged in the private practice of psychiatry and are also available for consultations, both in the local community and throughout the state. The residents in training are available as therapists under supervision for a limited number of psychiatric patients.

The Western State Hospital at Staunton co-operates with the local community to the fullest degree. There is practically no delay when they are asked to call for a patient.

The State Colony at Lynchburg, in direct contrast, never has an available bed, since they are always full beyond their capacity.

A great many patients from this community are referred to the private psychiatric hospitals of the state. These hospitals co-operate in taking care of psychiatric patients in a most satisfactory manner.

E. *Community Attitude toward Emotional Disorders and Mental Hygiene:*

The community is psychiatrically minded. There is an active chapter of the Mental Hygiene Society of Virginia. The Children's Service Center is partially supported by communitly funds, as well as by community interest. A Juvenile and Domestic Relations Court has been in existence for a number of years. There are County and City Welfare Departments in the City of Charlottesville. There is no Family Service Society, and no society that is especially interested in adoptions, which are handled by the Welfare Department. The relations between all these agencies and the psychiatric service offered by the Department of Neurology and Psychiatry at the University of Virginia Hospital and the Children's Service Center in the community has been a very friendly one, but there is still great room for improvement.

There is a great need for more psychiatric beds, more psychiatrists, and more understanding of psychiatric needs by the community. The greatest need of all, however, is a greater interest on the part of those physicians not directly related to psychiatric problems to become not only more interested in them, but more active in their correction.

CLIFTON FORGE

A. *Hospital Facilities:*

The Chesapeake and Ohio Hospital at Clifton Forge, Virginia, is a general hospital and does not have any facilities reserved for psychiatric patients. However, it is estimated that 30 to 50 per cent of the patients on the medical service are emotional problems. It is also estimated that about 10 per cent are admitted primarily for psychiatric problems. An effort is made to evaluate the patient's emotional, as well as physical, difficulties.

B. *Clinic Facilities:*

There are no clinic facilities available.

C. *Attitude of Private Physicians:*

It is estimated that 80 to 90 per cent of the physicians in the community are interested in emotional disease or certainly recognize that emotional disease is a major factor in the patients they see.

D. *Availability of Psychiatrists:*

The psychiatrists in Roanoke, Virginia, see most of the psychiatric patients from this community when such consultation is deemed necessary. They are very generous with their time and have been most satisfactory as consultants.

E. *Availability of Psychiatric Hospitals:*

Saint Albans Sanatorium at Radford, Virginia, is the most easily available psychiatric hospital, and is the one most frequently used for private patients. It is convenient, it is easy to get a patient in there, reports come back quickly, and expenses are fairly reasonable.

There has been no difficulty in admitting patients to the State Hospitals. A commission is easy to obtain, since physicians in town, and residents in the Chesapeake and Ohio Hospital who have state licenses, are willing to sit on commissions. There is no difficulty in obtaining transportation to the State Hospitals immediately. Because of the great number of patients, no reports or information about the patient are received after the patient has been admitted to the State Hospital at Staunton.

F. *Community Attitude toward Emotional Disorders and Mental Hygiene:*

There is no Mental Hygiene Society in this community. There is no Child Guidance Clinic. The Welfare Department is well handled, and emotional disorders, as well as physical disorders, are taken care of by this department. The only social service worker available in this community is through the local Welfare Department.

DANVILLE

A. *Hospital Facilities:*

Danville has recently annexed about nine square miles and now has a population of approximately 43,000 people. Present hospital facilities are inadequate for even general medical and surgical cases and offer no beds for strictly psychiatric cases. Patients with psychoneurosis of course make up a considerable part of medical practice, and are admitted as are any other patients. There are no facilities for shock therapy.

Work is now underway for the addition of 100 beds to Memorial Hospital. When this is completed, eight beds will be allotted for the treatment of psychiatric cases. These beds should permit the hospitalization of borderline cases and cases which will probably not need prolonged institutional care, as well as of some patients awaiting transfer to state or private sanatoria.

B. *Clinic Facilities:*

At present there are no mental hygiene clinics being conducted in this city. From time to time such clinics have been organized and directed by out-of-town clinicians, but no such clinics are now being held.

C. *Attitude of Private Physicians:*

The physicians practicing in Danville are, almost without exception, very busy. Their time from early in the morning until late in the evening is occupied with hospital work, keeping office appointments, and making house calls. The situation here is probably very little different from what it is elsewhere. Such a routine, however, does not give much time for consideration of mental hygiene

problems. The physicians are aware of many patients who have various types of emotional disorders and who need help. In most instances, the attitude of the physician is that such cases require too much time, and hence must be sent to a private or state sanatorium.

D. *Availability of Psychiatrists:*

At present there is no one in Danville restricting his practice to psychiatry. There is almost certainly enough material to keep such a specialist as busy as one should be.

E. *Availability of Psychiatric Hospitals:*

White patients from Danville and surrounding territory requiring institutional psychiatric care can usually be hospitalized without too much delay. The most of them are sent to Richmond, Staunton, Asheville, Charlottesville, and Durham. A few go to Baltimore. Our need is more for facilities and personnel for ambulatory psychiatric care than for hospital care.

F. *Community Attitude toward Emotional Disorders and Mental Hygiene:*

With regard to the community attitude toward emotional disorders and mental hygiene, it can probably be said that there is interest only in localized areas. There is a well-administered Juvenile and Domestic Relations Court. The Bureau of Social Service and the Welfare Department spend the taxpayers' money as generously as the City Council will permit.

On the other hand, the community at large seems uninterested in mental hygiene. The lack of interest is due, in part, to lack of knowledge. Years ago—and probably now—in Boston, during several months of the year, a free lecture on a medical topic was given to the public every Sunday afternoon at the Harvard Medical School. If a series of such lectures on mental hygiene could be given in Danville, knowledge of the subject should grow, and interest in it would quicken. In this city there is still a great need of more education in mental hygiene and what it has to offer.

Lawrenceville

A. *Hospital Facilities:*

There are no local hospital facilities.

B. *Clinic Facilities:*

There are no local clinic or other facilities for the treatment of psychiatric cases in this Southside Virginia community. Cases are usually handled through the local Welfare Department with a clinic at the Medical College of Virginia in Richmond, Virginia.

There are many borderline cases which are not receiving care, due to lack of hospital facilities and trained personnel. It is felt that there is a crying need for a clinic in this community, particularly for the study and treatment of so-called borderline cases.

C. (No report on *"Attitude of Private Physicians"*.)

D. (No report on *"Availability of Psychiatrists"*.)

E. (No specific report on *"Community Attitude toward Emotional Disorders and Mental Hygiene"*.)

One of the problems of this community concerns old people who develop senile arteriosclerotic mental disorders, and are regarded as "insane" by the general public. The establishment of regional homes under trained personnel is suggested as being preferable to committing them to State Hospitals.

Lynchburg

A. *Hospital Facilities:*

There are three general hospitals in Lynchburg, and one smaller hospital, the Guggenheimer Memorial, which is used primarily for convalescent cases. These hospitals have no especial facilities for the treatment of personality disorders, particularly the major ones.

B. *Clinic Facilities:*

There is a Child Guidance Clinic which has been in operation for about three years. This clinic is doing an excellent job, and is well thought of in the community.

C. *Attitude of Private Physicians:*

This has been generally good in reference to the overall view of personality disorders—a lack of understanding being the major deterrent. Most physicians, unless especially interested in the subject, prefer to refer the more serious cases to some of the institutions throughout the state. The neuroses, the psychoneuroses, and anxiety states, are generally handled with some form of reassurance and medication. When occurring with organic disease of some sort, the general attitude toward personality disorders seems to be somewhat casual.

D. *Availability of Psychiatrists:*

There are no full-time psychiatrists in this community.

E. *Availability of Psychiatric Hospitals:*

There are no psychiatric hospitals in the community. Patients are usually referred to the University of Virginia Hospital, the Medical College of Virginia, Saint Albans Sanatorium, DeJarnette's Sanatorium, or one of the State institutions.

F. *Community Attitude toward Emotional Disorders and Mental Hygiene:*

The community attitude is generally good. The Child Guidance Clinic is well supported and well understood. There is a long established Juvenile Court. The City furnishes social service workers, with its Welfare Society, which has recently combined with the Travelers Aid Society. These people do a generally good job.

The community, as a whole, supports these ideas and understands them fairly well. It is suggested that more improvement could be obtained if the Mental Hygiene Committee can do more to extend generally available information concerning the proper treatment of these cases in the early stages.

Marion

A. *Hospital Facilities:*

The Southwestern State Hospital is the hospital established by the State to care for (1) The mentally ill patients from the fifteen southwest counties of Virginia, the eastern borderline counties being Giles, Montgomery,

Patrick; (2) White Criminal Insane Department, receiving patients on commitment from courts, together with transfer of mentally ill patients from the Virginia State Penitentiary, male and female departments. The hospital has a capacity of 1,287, and a present census of 1,382, representing 95 overcrowding.

The maintenance budget does not provide adequate personnel. Capital Outlay allocations have been encouraging for remodelling, new construction, etc., but we are very much in need of a personnel building, enlargement of our criminal insane building, and a general fireproofing program. There is no waiting list of patients.

B. *Clinic Facilities:*

The Mountain Empire Mental Hygiene Clinic is located in Radford under the direction of Dr. Minor Wine Thomas and staffed by the psychiatrists of St. Albans Sanatorium. Seven clinics were operated out of the Southwestern State Hospital over a several-year period up until about five years ago, when these clinics were suspended because of limited personnel. These were located at Marion, Bristol, Norton, Lebanon, Tazewell, Wytheville, and Pulaski, and held once or twice a month. Patients on parole from the hospital, and referrals from various agencies, courts, physicians, etc., were seen.

C. *Attitude of Private Physicians:*

The practicing physicians who have expressed themselves have indicated a keen appreciation of the emotional problems among patients seen in general practice. It is felt that insofar as their time permits, they attempt to meet their patients' needs, insofar as they can, from a psychiatric and psychosomatic standpoint.

D. *Availability of Psychiatrists:*

There are no psychiatrists engaging in full-time practice in the state west of Roanoke.

E. *Availability of Psychiatric Hospitals:*

This is covered in part under "A. Hospital Facilities". There are no psychiatric facilities in the general hospitals in this area. St. Albans Sanatorium, located at Radford, is the nearest private psychiatric hospital.

F. *Community Attitude toward Emotional Disorders and Mental Hygiene:*

There is considerable interest in this area, particularly in Radford and Bristol. The Mountain Empire Mental Hygiene Society, comprising Radford and surrounding counties, was organized several years ago. A few months ago Dr. Barrett spoke at a meeting in Bristol as a result of their interest in establishing a clinic. It is not known whether there have been any further developments along this line.

NORFOLK

A. *Hospital Facilities:*

There are no specific units in any hospital for treatment of mental disorders. However, by the judicious use of shock therapy, there are few mental cases that they are unable to treat there, despite this handicap.

B. *Clinic Facilities:*

Norfolk has a Mental Hygiene Clinic, which is operated by a part-time psychiatrist, under the Community Fund, with aid from the government and State Mental Hygiene Department. This clinic, while not ample for the needs of indigent patients, is at least helpful in solving some of the social problems connected with the various agencies in the city.

C. *Attitude of Private Physicians:*

In general, the attitude of the private physicians toward psychiatry in Norfolk is about the same as elsewhere. Many of them, especially since the advent of widespread publicity in regard to psychosomatic medicine, are now treating more of the milder psychiatric conditions than previously.

D. *Availability of Psychiatrists:*

There are five psychiatrists in Norfolk.

E. (No report on *Availability of Psychiatric Hospitals.*)

F. *Community Attitude toward Emotional Disorders and Mental Hygiene:*

The community attitude toward mental hygiene in Norfolk is said to be equal to that of most other sections. (No report on Mental Hygiene Society or other specific factors reflecting community attitude.)

RICHMOND

A. *Hospital Facilities:*

There are approximately 1,750 general hospital beds in the City of Richmond. In addition, Veterans Administration Hospital, located just outside of the city limits, has an additional 1,100 beds of which about 100 are for psychiatric patients. Also there are two private hospitals with a total of 200 beds for psychiatric patients exclusively. Many minor personality disorders are cared for in general hospital wards.

B. *Clinic Facilities:*

There are two psychiatric clinics in the Richmond area. The Medical College of Virginia psychiatric clinic is especially active, taking referred cases from any source without question. It is the largest of its kind in the State and is attended by members of the Medical College of Virginia Hospital faculty and staff of the Veterans Administration Hospital. The other clinic is known as the Memorial Guidance Clinic and is well-staffed and active.

C. *Attitude of Private Physicians:*

In general the attitude of the private physician—especially the younger men—is one of high index of suspicion for personality disorders. They frequently seek the advice of psychiatrists and use the facilities of the mental hygiene clinics.

D. *Availability of Psychiatrists:*

There are about twenty-six psychiatrists in this area. This includes the staffs of the Medical College of Virginia, the Veterans Administration Hospital, and the two private psychiatric hospitals. There are several physicians not on these various staffs. A few of the members of

the staffs of the Medical College of Virginia and the Veterans Administration Hospital confine their work exclusively to patients in the two institutions. Others are available to consult and treat patients in other institutions or at home.

E. *Availability of Psychiatric Hospitals:*

There are approximately 350 beds available for psychiatric patients in the Richmond area. These include about 50 beds at the Medical College of Virginia Hospital. These beds are available only to the members of the faculty of the College. The Veterans Administration Hospital has about 100 beds available only for veterans. The two private psychiatric hospitals have about 200 beds reserved for the exclusive use of their staff members. These 350 beds are usually occupied and often patients have to wait days or weeks before admission. It is almost impossible for a psychiatrist who is not on the staff of one of the above hospitals to get a patient into a psychiatric ward. This has a great influence on younger men entering this field in the Richmond community.

F. *Community Attitude toward Emotional Disorders and Mental Hygiene:*

In general the community attitude is good. There is an active Mental Hygiene Society in the Richmond area. There are two child guidance clinics, one at the Medical College of Virginia Outpatient Clinic and another known as the Memorial Guidance Clinic. A Juvenile Court has long been established in this community. There are numerous Welfare agencies, including the Family Service Society and Children's Aid Society of Richmond. The City of Richmond has fully developed Welfare and Social Service agencies and there are in addition private agencies and others getting funds from the annual Community Fund Drive. In general the care of psychiatric patients is good, although the lack of available beds for these patients is a limiting factor.

Roanoke

A. *Hospital Facilities:*

General hospital facilities are adequate in quality but deficient in quantity. Except for the Veterans Administration Hospital, there are no psychiatric hospital facilities.

B. *Clinic Facilities:*

The Veterans Administration Regional Office offers adequate outpatient care for the veteran. The Roanoke Guidance center is able to handle a limited number of problems; however, their work in the main is devoted to child psychiatry. The clinic facilities for the general population are therefore inadequate.

C. *Attitude of Private Physicians:*

The attitude of the private physicians is thought to be excellent as pertains to the insight for the need of psychiatric care.

D. *Availability of Psychiatrists:*

The necessary psychiatric personnel are available for the present facilities. Additional facilities will require additional psychiatrists.

E. *Availability of Psychiatric Hospitals:*

The Veterans Administration Hospital of Roanoke offers adequate coverage for the neuropsychiatric veteran. The general population is not so fortunate in that we do not have a designated neuropsychiatric hospital or section of a general hospital for the care of the psychiatric needs of this group. Adequate facilities for the emergency local handling of the violent, noisy, assaultive and destructive psychiatric case are non-existent. The psychiatric casualty in this classification, able to afford private or semiprivate care, is referred to the facilities of neighboring cities—Radford, Charlottesville, Staunton, or Richmond.

In the case of the casualties not able to afford private care, or if emergency accommodation is not available as above for those able to afford such care, commitment proceedings are necessary, and during this procedure such cases are often confined to the City or County jail pending commitment and transfer to a suitable facility.

Therefore, in order to meet the psychiatric needs of the population of Roanoke and the surrounding area, the immediate designation of a neuropsychiatric section with at least an initial capacity of 25 beds is a critical requirement.

F. *Community Attitude toward Emotional Disorders and Mental Hygiene:*

Roanoke is an average community and the attitude is average. The Mental Hygiene Society is active, and the Roanoke Guidance center is active and growing. The laymen appear to be becoming increasingly more psychiatrically oriented.

Winchester

A. *Hospital Facilities:*

The Winchester Memorial Hospital, a general hospital of 240 beds, is equipped to take care of the minor psychoneuroses only. Cases involving major therapy for the psychoneuroses or for the psychoses must be referred elsewhere. The special physical equipment and nursing organization essential for such therapy is not available here.

B. *Clinic Facilities:*

A Child Guidance Clinic is now in the process of development. No other clinics are available locally.

C. *Attitude of Private Physicians:*

The care of the great majority of the minor psychoneuroses is carried out by the local physician. The more serious problems must be referred. It is believed that most physicians would welcome expert help.

D. *Availability of Psychiatrists:*

No psychiatrists are available locally; patients must be referred elsewhere. This is quite satisfactory insofar as diagnosis is concerned, but distance renders treatment difficult and unsatisfactory in many cases. The area supports specialists in practically all fields, including Urology and Orthopedics. It is believed that a well

trained psychiatrist would serve a real need in this area and would be successful.

E. *Availability of Psychiatric Hospitals:*

Those facilities available to the state as a whole are available to this area. There is no local psychiatric hospital, either private or public.

F. *Community Attitude toward Emotional Disorders and Mental Hygiene:*

There is a growing awareness on the part of the public of the importance of psychotherapy. This is especially true as regards preventive psychiatry. The response to the organization of the Child Guidance Clinic was enthusiastic and widespread.

EXTENSION OF BLUE CROSS AND BLUE SHIELD TO COVER PSYCHIATRIC CASES:

Another item of interest to the Committee is the attitude of Blue Cross and Blue Shield toward mental diseases. This will be taken up in a supplementary report which will be given to the Society before its annual meeting.

Respectfully submitted,

DAVID C. WILSON, *Chairman*
THOMAS H. ANDERSON
JULIAN BECKWITH
JOSEPH R. BLALOCK
REX BLANKINSHIP
ALEXANDER G. BROWN, III
WILLIAM M. GAMMON
SNOWDEN C. HALL
JAMES P. KING
JOHN B. MCKEE
EDWIN J. PALMER
JOHN R. SAUNDERS
DAVID SCOTT
JOHN SIMS
THOMAS SPESSARD
LANDON E. STUBBS
C. F. WILFONG
J. POWELL WILLIAMS
JOSEPH E. BARRETT (*ex officio*)
C. L. HARRELL (*ex officio*)

Rehabilitation

The Society's Committee on Rehabilitation, which also serves as Professional Advisory Committee for the Vocational Rehabilitation Service under the sponsorship of the Virginia State Board of Education, has been active during the year in two principal areas.

Individual members representing the various specialties have served as consultants to the State Rehabilitation Agency on medical aspects of rehabilitation, or individual case problems, on revision of professional fee schedule, and on the development of more effective medical rehabilitation services and facilities. This has been done on a continuing basis throughout the year and has served to keep the Committee abreast of developments in the program.

On April 29 a regular meeting of the Committee was held at the Hotel John Marshall in Richmond. In addition to regular Committee members, others present were Dr. Herbert W. Park, Medical Director, and F. O. Birdsall, Administrator, Woodrow Wilson Rehabilitation Center, R. N. Anderson, Director of Vocational Education, Corbett Reedy and Floyd H. Armstrong of the Vocational Rehabilitation Service.

The Committee heard Dr. Park's report on recent developments in the medical service at the Woodrow Wilson Center which included the establishment of an Occupational Therapy Department and further expansion of the Physical Therapy Department. Dr. Park indicated that the great demand for admission to the Center indicated a need to expand the bed capacity to 400 student-patients as rapidly as possible.

The Committee also discussed the problem of better utilization of the Woodrow Wilson Center for the industrially injured and for severely disabled persons who may become dependents of the State. In regard to the first group the Committee approved a resolution offered by Dr. Duncan to initiate "a special study group composed of representatives of the Industrial Commission, of the Rehabilitation Service and its Medical Advisory Committee, insurance carriers, and the Society's Committee on Industrial Medicine" to review present programs for the rehabilitation of the industrially injured and to submit recommendations for improvement to the Committee on Rehabilitation for its study and concurrence.

In regard to the severely disabled the Committee approved a proposal of the Vocational Rehabilitation Agency that rehabilitation clinics on a trial basis be undertaken in selected areas of the State at which an evaluation team of medical specialists would help to explore the rehabilitation prospects of severely disabled persons referred to such clinics.

The Committee plans to hold a fall meeting at a date as yet undecided to follow up on these proposals.

Respectfully submitted,

ROY M. HOOVER, *Chairman*
J. R. BLALOCK
PAUL D. CAMP
W. E. DICKERSON
GEORGE A. DUNCAN
G. S. FITZ-HUGH
N. F. RODMAN
G. B. SETZLER
LEROY SMITH
FRANK B. STAFFORD
F. J. WRIGHT

Civil Defense Advisory Health Service

At the request of Governor Battle, The Medical Society of Virginia at the meeting held in Roanoke, October 8-11, 1950, authorized the creation of an advisory health service committee for the State civil-defense program, the membership to be appointed by Dr. C. L. Harrell, President of the Society, in accordance with Section 2.10 of the manual of the U. S. Civil Defense, Health Services and Special Weapons Defense.

Briefly, the functions of this committee include; co-ordination and correlation of civil-defense health service facilities within the State, counsel and assistance to the State Co-ordinator of Civilian Defense, coordination of all resources and facilities in the State that can be used to advantage in the State Civilian Defense Program, and to serve in a liaison capacity between the local civil-defense health services and the State and Federal health services.

The committee, which follows, includes representatives from the State Medical Society, the State Dental Association, the Graduate Nurses Association, Hospital Administrators, Veterinarians, Pharmacists, Sanitary Engineers and other allied specialities:

C. L. Harrell, M.D., President of The Medical Society of Virginia.

*L. J. Roper, M.D., State Health Commissioner, *Chairman.*

Walter P. Adams, M.D., State Medical Society.

E. C. Drash, M.D., University of Virginia Hospital.

Kinloch Nelson, M.D., Medical College of Virginia Hospital.

John Powell Williams, M.D., McGuire Veterans Administration Hospital.

Rex Blankinship, M.D., President, Mental Hygiene Society of Virginia.

Wallace E. Baker, M.D., Alexandria, Virginia.

Frank A. Bliley, Funeral Directors Association.

Miss Hazel Knibb, Executive Secretary, Graduate Nurses Association.

W. B. Massey, D.D.S., State Dental Association.

A. J. Saury, Virginia Pharmaceutical Association.

Robert H. Thomas, Virginia Hospital Association.

I. D. Wilson, D.V.M., State Veterinary Medical Association.

J. H. Wyse, State Coordinator of Civilian Defense, *Ex-officio* member.

W. R. Southward, M.D., Chief of Medical Emergency Services, *Ex-officio* member.

The first meeting of the committee was held on January 17, 1951, the major business of which was to discuss and take action concerning organization, functions, objectives, etc., of the committee at State level.

Mr. Wyse expressed the thought that the local civil defense organizations would have the major responsibility in their respective areas. The local health officers, as a rule, would serve as directors and be responsible for civil-defense health services in their respective communities.

Dr. Everett I. Evans and Dr. W. T. Hamm of the Medical College of Virginia appeared before the committee, Dr. Evans discussing the treatment of burns, burn dressings and blood substitutes. Dr. Hamm discussed radiation sickness. Dr. Evans stated that in his opinion the greatest concern involved an adequate supply of blood plasma, present supplies being inadequate even in the event of a minor disaster.

The committee agreed that an adequate supply of blood was a state-wide problem, and a sub-committee consisting of the following members of the committee, was appointed to investigate the problem as it relates to civil-defense health services:

E. C. Drash, M.D., *Chairman*
Kinloch Nelson, M.D.
John Powell Williams, M.D.
W. R. Southward, M.D., *Consultant*

Dr. Evans discussed a plasma substitute which might be used in an emergency, adding that this substitute had been used experimentally in Sweden and England, and more recently in the United States.

In reply to inquiry by Dr. Harrell concerning provisions for meeting emergencies arising from water contamination and other indirect effects of atomic bomb attack, Dr. Southward stated that plans had been made whereby certain engineering personnel from the State Department of Health would take courses in specialized subjects in this connection.

The second meeting of the committee was held on March 15, at which meeting the major subject for discussion was the report made by Dr. Drash, Chairman of the sub-committee appointed January 17 to make a study concerning the status of blood supplies in Virginia at the present time and the specific problem of sources of blood in large quantities in case of disaster.

Dr. Drash stated that the collection of blood and maintenance of blood banks had been undertaken by the American Red Cross at national level, explaining the procedures followed in collecting the blood.

After some discussion, it was the consensus that blood banks alone could not handle the tremendous drain which would be caused by a catastrophe and that blood-donor types should be compiled and made ready in case of need. The committee agreed unanimously that mass-blood typing should not be attempted.

The sub-committee was continued for further studies.

Dr. W. R. Southward, Jr., Chief, Medical Emergency Services, discussed the training of individuals who could be used as instructors for highly specialized duties, stating that six nurses have already taken the course on "The Nursing Aspects of Atomic Warfare," that two engineers have taken a course on "Atomic Energy and Radiation," another engineer has taken a course dealing with "Radiological Health Training," and another a course dealing with "Radiological Water Sanitation."

The representative of the Graduate Nurses Association reported that registration of all nurses in the state would be taken.

Dr. Massey discussed services that could be rendered by the dentists, and Dr. Wilson discussed the services that could be rendered by the veterinarians.

A meeting of the committee has not been held since March 15.

Respectfully submitted,
W. R. SOUTHWARD, JR.,
Ex-officio Member of the Committee.

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*Dr. Roper died on June 12, 1951.

This report has been approved by Dr. C. L. Harrell, President.

Cerebral Palsy

During the past year, an attempt has been made to review the Cerebral Palsy Program in the State of Virginia. Various members of the Cerebral Palsy Committee of the State Medical Society were contacted. Each one was asked to reply to a questionnaire sent to him. The questionnaire was enclosed. These replies have been very satisfactory and enlightening. In this preliminary summary, the attitude of the various committee members will be briefly stated:

It was felt essential, also, that the opinion of Dr. Allen M. Ferry, who has been responsible in great part for the care of cerebral palsy cases in the Arlington Health Center, be obtained. This was sent to the various committee members for study. It was also decided to have Dr. Ferry attend various meetings, so as to gain the most recent information concerning the problem.

In order that one could learn what was being done nationally, Dr. Roscoe S. Mosiman was sent to Chicago. He was specifically advised to learn whether a strong national integrated program had been developed and, if so, under whose guidance and leadership. This information was obtained, and is enclosed in the preliminary report.

Public Health Workers, Physical and Occupational Therapists, Vocational Counselors and Instructors have also been contacted. The Cerebral Palsy Program in the State was discussed at the April meeting of the Virginia Orthopedic Society held in Arlington, Virginia.

As a result of these studies, a preliminary report is offered:

(1) There has been an increased interest throughout the country in the care of cerebral palsy patients. Lay and medical groups have become more cognizant of a greater responsibility for their care.

(2) The program in the State of Virginia is inadequate. It is not a well coordinated program, and lacks standards for quality of care. There is no uniformity in the manner in which these cases are handled.

(3) It is felt that cerebral palsy cases are best diagnosed and treated in separate clinics and treatment centers. This can be carried out in the Crippled Children's Clinics with the assistance of a neurologist and pediatrician, and other consultants. Physical, occupational and speech therapists should be provided, and these, usually, can be technicians engaged in crippled children's work, generally.

(4) Financial help is necessary for this program, since it is quite expensive. Funds, specially earmarked for this work, are suggested. It appears that State or Federal funds are necessary. Considerable help can be gained through volunteer groups, but such help hardly seems enough to carry on the type of program desired.

(5) Effort should be made to provide further education and training for doctors and other personnel in the field of cerebral palsy.

(6) The consensus is that each local community can organize its own program under the control of the orthopedists and neurologists in that area.

It appears that if sufficient funds are obtained to carry out a program designed to offer complete rehabilitation to the patient through the use of the teamwork approach, improvement will take place in the care of these patients.

It should be the aim of each community to obtain the basic personnel required. It is suggested that, in addition to the orthopedist, a physical therapist should be provided. An occupational therapist and a neurological consultant are valuable assets.

O. ANDERSON ENGH, *Chairman.*

Walter Reed

As chairman of the Walter Reed Commission, I wish to submit the following report:

The building needs repair and paint inside and out. The furniture consists of one old rocking chair. The ground consisting of one acre needs to be plowed and put in condition for planting grass seed. The few shrubs need working and pruning. Altogether, this place is in a more or less dilapidated condition. With the help of the Gloucester Woman's Club, I had the place cleaned for Garden Week.

In my estimation, it will take about $250.00 to $300.00 to put it in good condition, not including furniture for the house. If the groups are put in the condition they should be, it will certainly take $10.00 a month to keep the grass cut and the place cleaned up. I will be glad to attend to this if the Society deems proper.

H. A. TABB, *Chairman.*

Advisory to Woman's Auxiliary

The Chairman of this Committee met with Mrs. McCoy, President of the Woman's Auxiliary, and the Board of the Auxiliary following the meeting in Roanoke, October, 1950. The President consulted with the Chairman of this committee on several occasions. Advice has been given when requested.

MALLORY S. ANDREWS, *Chairman.*

Conservation of Hearing

The Committee on Conservation of Hearing is greatly encouraged by the possibilities for greater service in Virginia for the Prevention of deafness and treatment of those who are hard of hearing with or without speech problems.

At the meeting of The Virginia Society of Ophthalmology and Otolaryngology held in Roanoke, May 12, 1951, Dr. F. D. Woodward, whose interest and efforts in this problem date back many years, announced a practical plan for the establishment of the Virginia Hearing Foundation at the University of Virginia. Once a complete diagnosis, treatment and training center is established, as proposed for the Foundation, full time hearing traveling clinics (see previous Committee reports), hearing centers and clinics in other cities could be established. Ironically, Virginia, upon whose soil was established the first (1815) school for the deaf in the United States, has lagged for nearly a century and a half in its

private and public facilities for the care of the deaf.

The Committee again wishes to call attention to the fact that progress in solving this problem can be expected only through an aroused and maintained interest and support on the part of the general practitioner and specialist alike, plus proper and timely publicity (*Richmond Times-Dispatch,* 5-13-51 and *The Roanoke Times,* 5-13-51).

B. R. Kennon, III
F. H. McGovern
H. Grant Preston
T. M. Winn
Mortimer H. Williams
Fletcher D. Woodward
P. N. Pastore, *Chairman*

Child Welfare

This Committee has not met during the year and has no report at this time.

John O. Rydeen, *Chairman.*

Emergency Medical Service

Dr. L. J. Roper was appointed to head up the Health Services Section of Virginia Civil Defense and his lieutenants have been drawn from his own department. This policy follows the plan advised in the two directives from Washington, (1) United States Civil Defense and (2) Health Services and Special Weapons Defense. This plan has its obvious advantages in that it automatically supplies a state wide control network which would otherwise be very difficult to establish. Its disadvantages are also obvious unless close liaison is established and maintained with the organized profession of the State down to its smallest units, and such a situation was referred to in last year's report involving the State of Illinois, where serious antagonism had developed.

After considerable delay and some urging from the Society, an Advisory Committee to the Health Services was requested and appointed by Dr. Harrell as follows: Dr. L. J. Roper, Chairman, Dr. C. L. Harrell, ex-officio, Dr. John Powell Williams, Dr. Cato Drash, Dr. Kinloch Nelson, Dr. Walter Adams, and Dr. W. E. Baker.

This group met only twice with Dr. Roper before his death and has not met since. The first meeting was taken up almost entirely with a review of organizational plan set forth in United States Civil Defense and the decision to invite representation on the Advisory Committee from other groups related to Health Services such as dentistry, nursing, pharmacy, veterinary medicine, morticians, etc.

Dr. Everett Evans outlined the critical situation which would exist as regards blood and blood substitutes in the event of atomic disaster. A Blood Committee was appointed with Dr. Drash as Chairman, Dr. Nelson and Dr. Williams to survey the situation in Virginia and make recommendations at the next meeting.

At the second and last meeting of the Advisory Committee, Dr. Drash reported for the Blood Committee and it was perfectly obvious that as at present developed, we were entirely unable to meet disaster successfully within our own borders much less to be of assistance to neighbors. The only hope for significant improvement seemed to lie in the full development of facilities within our largest metropolitan area, around Richmond, with large emergency capacity. Dr. Southward reported that one of the veterans organizations had requested official approval of a mass blood grouping experiment. He further stated that this had been tried in a neighboring state and the percentage of error found to be so high as to make the hazards outweigh the advantages in emergent situations where transfusions might have to be given wholesale without cross tests.

The Board of Trustees of the Richmond Academy of Medicine met to consider and discuss the local Civil Defense plan with Dr. Holmes and a request from the local Red Cross for approval of the operation of bloodmobile service in this area. Dr. Roper and Dr. Drash requested that since Dr. Nelson was on the Board of Trustees, your Chairman represent both the Blood Committee of Health Services and your Committee at this meeting. The Trustees decided to recommend approval of the bloodmobile as a temporary expedient and a full reconsideration of the matter of establishment of a Red Cross blood bank in Richmond in view of the demands of civilian defense in atomic disaster.

When this matter was brought to the floor of the Academy, the membership were unwilling to accept these recommendations without further study and a committee was appointed headed by Dr. William H. Higgins to make a thorough investigation and report in a month. Your Chairman was invited to appear before this Committee and subsequently was requested to submit his testimony as nearly as possible in writing. Since this transcript represents the attitude of your Committee and of The Medical Society of Virginia according to the resolution passed in the House of Delegates October 1948, it is herewith incorporated in this report.

March 12, 1951.

Dr. William H. Higgins, Sr.
Chairman, Special Blood Services Committee
Richmond Academy of Medicine
Dear Dr. Higgins:

In compliance with your request that I set down in writing, as nearly as possible, my testimony before your Committee, I herewith submit the following:

I have listened with great interest to Dr. Russell Hayden's account of the plans of the American Red Cross to carry out its national assignment to supply both the Armed Forces and Civilian Defense with the blood and blood products necessary for our survival in atomic warfare, and also to the discussion of local issues. My place in this inquiry lies somewhere between these two zones of interest, but is nevertheless intimately related to them both.

I come before your Committee to talk about Civilian Defense both as a representative of the Committee on Emergency Medical Service of our State Society and of the Advisory Committee to Health Services of the Civilian Defense set-up of the State of Virginia.

For the past three years the State Society has sent me to Chicago to the annual meeting of the Council on National Emergency Medical Service of the A.M.A. to listen to and report on the thinking of the foremost investigators and planners in the medical profession such as Dr. Keefer of the National Security Resources Board, Dr. Shields Warren who was assigned to the study of atomic effects at Nagasaki and Hiroshima as well as the South Pacific experiments, Dr. Lyons also an expert on radiological medicine, the Surgeons General of the Armed Forces and the United States Public Health Service and many other celebrities including Colonel Wilson who spoke at the last meeting of The Medical Society of Virginia and who for the past three years has been assigned as a Special Assistant to the Surgeon General of the Army for the specific purpose of studying and planning for the Civilian Defense of Washington, D. C., our near neighbor and prospective dependent. It is therefore obvious that the views which I shall express are not my own, though I am convinced that they are based on the best current study and thought of the best qualified men in our national and state profession.

I would first like to bring forcibly to your attention the following facts which are conceded by all the authorities cited above as background for a latter discussion of our situation as regards a blood bank:

1. If war should come, it will certainly open with unannounced and widespread atomic disaster for us. General Vandenbergh has testified before a congressional committee that if 100 long-range atomic bombers were to attack us from Russia, 70 of them would certainly reach targets somewhere in the United States in spite of our extensive radar network and excellent interceptor service.

   The question of whether there will be a war is unanswerable save by the oracular double negative so often heard that "war is not unavoidable", though many feel seriously that the two diametrically opposed philosophies must come to death grips sooner or later.

   Be that as it may, we know that our economy minded senators and representatives in the Congress have voted for the expenditure of about 30 per cent of our national income as insurance against war, so it obviously behooves us to base our planning on this same principle.
2. That in the case of an optimum atomic strike (a burst at about 2,000 feet above the approximate population center of a community), none but our larger metropolitan areas would have sufficient resources remaining in its peripheral areas to afford more than a modicum of self-aid and that therefore most stricken communities would be almost entirely dependent on a well organized plan of mutual aid or help from neighboring communities in which blood and blood products would constitute a most essential element.

   This has been demonstrated by elaborate "dry runs" in Washington, D. C., a much larger city than Richmond or Norfolk, as well as by practical experience at Nagasaki and Hiroshima.
3. In addition to those killed outright near the center of the burst, it is estimated from experience that there will be about 120,000 casualties more or less depending largely on the time of day with the diurnal shifts in population density from places of business (highest concentration and casualties) to scattered homes in peripheral areas (lowest concentration and casualties).
4. Of this total, 40,000 will die during the first 24 hours, leaving 80,000 with some chance of survival if mutual aid is well organized and prompt, and if trained personnel and an abundance of blood and blood products are poured in and utilized in the shortest possible period of time.

   Self-aid is important since whatever remains of the organization is on the spot and can go into action almost immediately, but the extent to which human life will be salvaged will depend in the largest part on prompt and efficiently organized aid, chiefly from the nearest neighbors.
5. Accepting the figure of 80,000 as the number of casualties surviving the first day of disaster, very serious studies in the light of Japanese experience have shown that the need for blood and blood products will be perfectly tremendous if maximum survival rates are to be attained. It is estimated that one pint of blood per case per week for the first three weeks will be a minimum requirement, a total of 240,000 pints of blood, and this does not take into account the long term illnesses extending beyond the third week which will inevitably occur. During the first week the 80,000 pints will be used largely in the treatment of burns. In the second week it will be divided about equally between burns and radiation sickness and during the third week mostly in the treatment radiation injury with its aplastic anemia. During this interval another 20,000 of the most severely injured will have died in spite of all planning and the utmost effort. This is indeed a grim picture and the only consolation that we may draw from it is that without mutual aid planning and effort, it could be so much worse.

   Nor should it be overlooked that the demand for blood described above applies only to *one* bomb while it is obvious that an attack will be delivered by many planes simultaneously and, according to General Vandenbergh, 70 per cent of them will arrive over American soil.

All authorities have agreed as to the essentiality of blood in fantastic amounts to meet atomic attack with hope of reasonable survival. We all know that blood is a perishable commodity which may be stored for only short periods and cannot be stock-piled. It is therefore obvious that we must establish a vast nation-wide plant which will idle along in quiet intervals, supplying blood to the Armed Forces and stock-piling plasma, our best blood substitute for emergencies.

I deliberately left out of the above paragraph any mention of blood from such a system of banks in ordinary

civilian channels because it should be discussed by itself and is the serious decision which must be made here.

It should be obvious from what has gone before that there can never be enough blood to meet the needs of atomic disaster. This means that some seriously injured casualties with little or no hope of survival will have to be denied in order that two or more less seriously injured with reasonable hope of survival may live. Under such circumstances where blood may mean life, it can no longer be evaluated in terms of dollars and cents or any other medium of exchange save blood itself.

I feel that this is the answer to the question I have heard so frequently from opponents of the idea of a Red Cross blood bank dispensing blood to civilians without monetary charge and regardless of means: "Why shouldn't those who can afford it pay for their blood as they would for any other necessity?" The blood thus disposed of is actually paid for in blood by a deposit by some relative or friend or even by an unknown person of good will. If we ever expect to develop our blood supply to a point at which we can hope to meet disaster adequately, then all of the able-bodied citizens must be brought to regard blood bank deposits with the same attitude they now have toward insurance against other disasters from death to theft, or that they now have toward deposits in a savings account for a rainy day.

There is nothing either new or socialistic about such a plan. It is being used currently by all commercial blood banks save that they demand two pints for one if there is to be no direct monetary outlay, so as to cover overhead and a fair return for professional services and interest on investment. This is the American way of life in normal times and we have all found it good.

The ideal of maintaining a credit in a blood bank is not new. From time to time during my overseas service in the last war, I would receive a card from the local Red Cross Chapter stating that Mrs. Williams had deposited a pint of blood with the National Red Cross to my credit, and at the present time blood is being shipped into Richmond in special containers by Greyhound bus and delivered both to local hospitals and blood banks by the Motor Corps of the Richmond Red Cross Chapter for the use of patients whose families and friends have made deposits to their credit in Norfolk, Roanoke or Washington. Dr. Drash, the Chairman of the Civil Defense Blood Bank Committee, tells me that this same situation holds true for the University which receives contributions of blood from as far West as Bristol and Abingdon.

We must all begin to realize that these are not normal times through which we are living and that there is little prospect of a return to normalcy at any predictable date in the near future. That to insure survival throughout this period, the methods and practices as regards our blood supply, which have been adequate for normal times, are actually insignificant as related to the demands of atomic warfare, and are not capable of anywhere near the necessary expansion in private hands because of the heavy capital outlay and the long delay without revenue which may be necessary before its full function is demanded, and we all hope fervently that it may never be.

The only way to meet this situation with which we are faced is to consider blood as an utterly essential and priceless national resource belonging to all the people, which must be collected by them and distributed to them by their own organization which they support with their own contributions. The American Red Cross has proved that it is capable of carrying out this assignment by its experience in the last war and has been designated to assume this responsibility again. Whether we like all of the policies and practices of the American Red Cross is really of small consequence because it is a common prerogative of all Americans to differ with the policies and practices of their governments, their churches, their businesses and their friends and we all cherish this freedom as the truest evidence of Americanism. The thing that we must keep constantly before us is that our only hope of reasonable success in solving our problem is to approach it on a national basis, and that the only alternative is another Federal agency or administration, which God forbid.

The present position of Richmond in the general scheme of Civilian Defense is not one that we can view with complacency. We are the largest metropolitan area in the State, strategically located between our two high priority target areas and so should be able to send aid rapidly in either direction, including blood, but this is certainly not the case. A recent survey of our blood supplies and potentialities by a local group of professional men reached the conclusion that we would be unable to meet the demands of even a minor disaster involving no more than 50 to 100 casualties. As stated before, the flow of blood at present is into this area from those which are better organized rather than outward, and the tragedy of the situation is that if either or both of these sources of blood were bombed, their blood potentialities would immediately become zero. A lesser tragedy would be Richmond's if we had not done all that is humanly possible to prepare for such an emergency.

If Richmond is to take its place and play its part in a national plan for Civilian Defense, there should be no further delay. It takes months to set up and man an adequate plant for the collection and processing of blood in the amounts demanded by atomic warfare. A start should be made immediately and I feel confident that this Academy will do everything within its power to bring this matter to a rapid and successful conclusion.

* * * * *

Dr. Higgins' Committee recommended approval of both bloodmobile service and a blood bank for Richmond, but the membership voted to accept only bloodmobile service for distribution to the Armed Forces and declined the blood bank or any other "infusion" of blood or blood products into civilian channels.

If atomic disaster is avoided, this decision by the Academy will certainly be hailed as good conservative

Americanism, but if disaster should come, our regrets can never compensate for our hideous loss or that of our neighbors. Your Chairman and representative will have to accept his part in the responsibility for this decision in that he was not able to present the possibility and consequences of atomic disaster with sufficient force to make it a primary consideration, with the result that the debate on the Academy floor hinged on socialized medicine as opposed to free enterprise as it had done previously. The fact that both the A. M. A. and The Medical Society of Virginia had endorsed the establishment of blood banks under the Red Cross had little if any effect. It is possible that the recent passage of the 56 billion defense bill by the Congress with little or no debate and with almost unanimous concurrence of both parties, may lead to a reassessment of the probabilities and possibilities of an atomic disaster by even the most conservative among us.

Finally, it must be stated that satisfactory liaison between the organized profession and the Health Services of Civilian Defense has not yet been established and that which now exists is more a matter of form than of substance. It would seem that for the time being the gentlemen in charge have forgotten the lesson of the Boston Tea Party, but this seems to be generally true throughout the country and will undoubtedly work itself out since I am convinced that these gentlemen are both serious and sincere and will need much help in the future which we will always be prepared to give.

JOHN P. WILLIAMS, *Chairman.*

DELEGATES TO 1951 MEETING
THE MEDICAL SOCIETY OF VIRGINIA

Where no name is listed, it is indicative that no delegate or alternate was reported.

Delegates	*Alternates*
Accomack	
Dr. J. L. Decormis	Dr. John W. Robertson
Albemarle	
Dr. George Cooper	Dr. E. D. Davis
Dr. T. S. Edwards	Dr. James Twyman
Dr. R. G. Magruder	Dr. Frank Daniel
Dr. H. B. Mulholland	Dr. McLemore Birdsong
Dr. A. M. Smith	Dr. H. L. Archer
Alexandria	
Dr. James W. Love	Dr. S. H. Williams
Dr. John A. Sims	Dr. Charles V. Amole
Alleghany-Bath	
Dr. J. R. Beckwith	Dr. H. G. Hudnall
Dr. S. P. Hileman	Dr. Brown Jarman
Arlington	
Dr. Harry C. Bates	Dr. K. N. Ostergard
Dr. John T. Hazel	Dr. W. C. Welburn
Augusta	
Dr. Guy R. Fisher	
Dr. Charles L. Savage	
Bedford	
Dr. C. R. Titus	Dr. W. V. Rucker
Botetourt	
Buchanan-Dickenson	
Dr. J. C. Moore	Dr. Stuart Richardson
Dr. T. C. Sutherland	Dr. James Williams
Charlotte	
Culpeper	
Dr. J. Bernard Jones	Dr. O. K. Burnett
Danville-Pittsylvania	
Dr. Snowden C. Hall	
Dr J. J. Neal	
Elizabeth City	
Dr. Frank A. Kearney	Dr. Oscar W. Ward, Jr.
Fairfax	
Dr. J. D. Zylman	Dr. Emanuel Newman
Fauquier	
Dr. W. R. Pretlow	Dr. M. B. Hiden
Floyd	
Fourth District	
Dr. H. H. Braxton	Dr. G. N. Carter
Dr. J. M. Habel	Dr. J. T. O'Neal
Dr. Maurice Rosenberg	Dr. Kasper Kaufman
Dr. Fletcher Wright	Dr. Herbert Jones
Fredericksburg	
Dr. Lloyd F. Moss	
Dr. David W. Scott	
Halifax	
Dr. J. D. Hagood	Dr. C. B. White
Hanover	
Dr. John D. Hamner, Jr.	Dr. A. C. Ray, Jr.
James River	
Dr. J. H. Yeatman	Dr. W. A. Pennington
Lee	
Dr. G. B. Setzler	Dr. T. S. Ely
Loudoun	
Dr. W. O. Bailey	Dr. Keith Oliver
Louisa	
Dr. H. C. McCoy	
Lynchburg	
Dr. H. L. Riley, Jr.	Dr. G. B. Craddock
Dr. J. W. Davis, Jr.	Dr. E. S. Groseclose

Delegates	Alternates
Mid-Tidewater	
Dr. R. D. Bates	
Dr. J. R. Gill	Dr. R. B. Bowles
Dr. J. M. Gouldin	Dr. Felix Wilson
Dr. M. H. Harris	Dr. A. W. Lewis, Jr.
Dr. J. R. Parker	
Dr. H. A. Tabb	Dr. James W. Smith
Dr. A. L. VanName	Dr. T. L. Grove
Norfolk	
Dr. Russell M. Cox	Dr. W. R. Moore
Dr. George A. Duncan	Dr. K. W. Howard
Dr. Brock D. Jones	Dr. Mallory S. Andrews
Dr. W. Callier Salley	Dr. A. L. Kruger
Dr. R. L. Payne, Jr.	Dr. B. L. Parrish
Dr. W. L. Whitmore	Dr. K. K. Wallace
	Dr. Charles E. Davis, Jr.
Northampton	
Dr. S. K. Ames	
Northern Neck	
Dr. Motley Booker	Dr. R. E. Booker
Dr. Arthur B. Gravatt, Jr.	Dr. Melvin B. Lamberth
Dr. C. Y. Griffith	Dr. C. H. Ward
Dr. Paul C. Pearson	Dr. H. E. Sisson
Northern Virginia	
Dr. C. L. Riley	Dr. J. A. Miller
Dr. J. P. Snead	Dr. H. W. Miller
Dr. Frank Tappan	
Dr. M. J. W. White	Dr. George Long
Orange	
Dr. H. C. McCoy	Dr. J. Garnett Bruce, Jr.
Patrick-Henry	
Dr. M. H. Price	Dr. J. H. Irby
Dr. B. A. Hopkins	Dr. Nash Thompson
Princess Anne	
Dr. Ira L. Hancock	Dr. Floyd Dormire
Richmond Academy	
Dr. Kinloch Nelson, *Chm.*	Dr. John E. Stevens
Dr. W. Linwood Ball	Dr. T. W. Murrell, Jr.
Dr. R. D. Butterworth	Dr. J. W. Montague
Dr. Henry W. Decker	Dr. W. R. Morton
Dr. Emily Gardner	Dr. Gilman Tyler
Dr. E. E. Haddock	Dr. Hunter Frischkorn
Dr. William H. Harris	Dr. A. I. Dodson
Dr. E. L. Kendig, Jr.	Dr. John R. Massie
Dr. C. L. Outland	Dr. R. C. Manson
Dr. M. M. Pinckney	Dr. B. R. Wellford
Dr. Elam C. Toone, Jr.	Dr. E. M. Holmes, Jr.
Dr. Harry J. Warthen, Jr.	Dr. H. C. Spalding
Dr. T. B. Washington	Dr. Richard Michaux
Dr. Carrington Williams, Sr.	Dr. Dupont Guerry, III
	Dr. Rex Blankinship
	Dr. Wm. H. Higgins, Jr.
	Dr. Arthur Klein
Roanoke	
Dr. Frank Farmer	Dr. M. A. Johnson, Jr.
Dr. D. S. Garner	Dr. E. B. Neal
Dr. George S. Hurt	Dr. K. D. Graves
Dr. C. H. Peterson	Dr. Richard S. Owens, Jr.
Dr. W. L. Powell	Dr. E. G. Gill
Dr. Hugh Trout	Dr. H. B. Stone, Jr.
Rockbridge	
Dr. Thos. F. Kennan	Dr. O. H. McClung, Jr.
Rockingham	
Dr. Charles C. Powel	Dr. George C. Andes
	Dr. Galen G. Craun
Russell	
Scott	
Dr. A. M. Wallace	Dr. G. C. Honeycutt, Jr.
Southwestern Virginia	
Dr. E. L. Bagby	Dr. E. S. Carr
Dr. R. D. Campbell	Dr. J. J. Eller
Dr. Glenn Cox	Dr. T. H. Worrell
Dr. James Chitwood	Dr. Fred Delp
Dr. Harry Hayter	Dr. Charles Harkrader
Dr. C. F. Graham	Dr. S. W. Huddle
Dr. George Kegley	
Dr. D. S. Phlegar	Dr. A. M. Showalter
	Dr. R. L. Waddell
Tazewell	
Dr. M. E. Johnston	Dr. Rufus Brittain
Tri-County	
Dr. F. I. Steele	
Dr. W. Holmes Chapman, Jr.	
Dr. T. A. Morgan	
Warwick	
Dr. A. A. Creecy	Dr. J. W. Carney
Dr. E. B. Mewborne	Dr. Russell Buxton
Williamsburg-James City	
Dr. J. E. Barrett	Dr. Granville Jones
Wise	
Dr. F. E. Handy	Dr. T. J. Tudor

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—Mrs. C. M. McCoy, Norfolk
President-Elect—Mrs. H. W. Farber, Petersburg
Recording Secretary—Mrs. L. B. Sheppard, Richmond
Corresponding Secy.—Mrs. Lemuel Mayo, Portsmouth
Treasurer—Mrs. K. W. Howard, Portsmouth
Parliamentarian—Mrs. H. W. Rogers, Norfolk
Historian—Mrs. M. H. Harris, West Point

Information

Twenty-Ninth Annual Meeting
Virginia Beach October 7-10, 1951
Headquarters: Cavalier Hotel

Registration Booth Open
Monday, October 8, 9:00 A.M.—4:00 P.M.
Tuesday, October 9, 9:00 A.M.—12:00 Noon
Chairman of Arrangements: Mrs. Alfred Kruger, *President,* Woman's Auxiliary to the Norfolk County Medical Society

A most cordial invitation is extended to all women who are Auxiliary members or guests of physicians attending the Convention of The Medical Society of Virginia, to participate in all social functions and attend the general session. Auxiliary members or not, wives of doctors will be most welcome.

Each lady is urged to register promptly upon arrival in Virginia Beach.

Sunday, October 7th

8:00 to 10:00 P.M.—President's suite.

Monday, October 8th

1:00 P.M.—Luncheon for Board Members.

4:00 P.M.—Pre-Convention Board Meeting, President's suite.

Presidents and Presidents-Elect of County Auxiliaries, State Officers and Chairmen of all Committees are expected to attend.

Tuesday, October 9th

9:00 A.M.—General Annual Meeting, Hunt Room, Cavalier Hotel.

All women attending the Convention are cordially invited to attend.

Mrs. C. M. McCoy, president, presiding.
Address of Welcome—Mrs. H. F. Dormire.
Response—Mrs. Fletcher Wright, Sr.
Report of Committee on Arrangements—Mrs. Alfred Kruger.
In memoriam—Mrs. Franklin Wilson.
Minutes of the twenty-eighth annual meeting.
Minutes of the Post-Convention Board meeting.
Minutes of the Winter Board meeting.
Roll Call
Presentation of Honored Guests:
Mrs. Harold Wahlquist, President of the Woman's Auxiliary to the American Medical Association.
Mrs. L. S. Thompson, President of the Woman's Auxiliary to the Southern Medical Association.
President's Report—Mrs. C. M. McCoy.
Reports of Officers.
Reports of Chairmen of Standing and Special Committees.
Reports of County Auxiliary Presidents.
Guest Speaker—Mrs. L. S. Thompson, President of the Woman's Auxiliary to the Southern Medical Association.
Report of the Council to the Woman's Auxiliary to the Southern Medical Association—Mrs. Waverly Payne, Hampton.
Report of the Annual Convention of the Woman's Auxiliary to the American Medical Association—Mrs. J. W. Carney.
Unfinished Business.
New Business.
Recommendations from the Board.
Reports.
Committee on Resolutions.
Report of the Nominating Committee—Mrs. Paul Pearson, Chairman.
Election of Officers.
Installation of Officers—Mrs. H. W. Rogers, Parliamentarian.
Presentation of Gavel.
Acceptance of Gavel—Mrs. Herman W. Farber.
Adjournment.

Luncheon

1:00 P.M.—Hunt Room, Cavalier Hotel.

Honoring especially invited guests of The Medical Society and Auxiliary with their husbands and wives; Honorary Members; Past Presidents of the Auxiliary; the retiring and incoming presidents of The Medical Society and their wives; the presidents of the Woman's Auxiliary to the American Medical Association, and the Southern Medical Association; and the members of the Advisory Council and their wives.

Musical—Woman's Auxiliary to the Norfolk County Medical Society of Virginia.

Address—Mrs. Harold Wahlquist, president of the Woman's Auxiliary to the American Medical Association.

3:30 P.M.—Adjournment.

Wednesday, October 10th

8:30 A.M.—Past President Breakfast, Cavalier Hotel, Mrs. J. E. Hamner, Chairman.

9:30 A.M.—Post-Convention Board Meeting.
Mrs. Herman Farber, President, presiding.

Presidents of County Auxiliaries, State Officers and chairmen of all Committees are expected to attend.

EDITORIALS

Harvey Williams Cushing (1869-1939)

THERE can be no greater honor for a medical man than to have a medical society named for him. When some 35 neurosurgeons from all over the country met on May 6, 1932, at the Peter Bent Brigham Hospital, just two months before Dr. Cushing's retirement as Moseley Professor of Surgery, and formed the Harvey Cushing Society, it announced, in effect, to the world, that there was a new surgical specialty, and that Cushing was its founder and leader. In April 1939 the Society met again with Cushing, this time in New Haven, to celebrate his seventieth birthday. This proved to be an international affair. Olof Sjöqvist presented a birthday volume of papers written by Cushing's friends and admirers in Sweden and Arnold Klebs came from Switzerland. At the banquet Klebs proposed the toast "Harvey Cushing, the artist", which according to John Fulton, Cushing's biographer, "epitomized Cushing's career perhaps as aptly as anything that has been written or said of it". Eveything he did, his work, his writing, his book collecting, his traveling, showed the artist that he was; even his temper fitted in with the popular conception of an artist.

Harvey Williams Cushing, the youngest of ten children of Betsey Maria Williams and Henry Kirke Cushing, M.D., was born in Cleveland, Ohio, April 8, 1869. His great grandfather, David Cushing, Jr., a country doctor, emigrated to western Massachusetts. His grandfather, Erastus Cushing, M.D., emigrated to the Western Reserve. Harvey Cushing, when his turn to migrate came, went East, first to Yale, 1887-1891, for his A.B. degree and then to Harvard, 1891-1895, for his A.M. and M.D. degrees. In 1895-1896 he was House Pupil at the Massachusetts General Hospital. In September 1896 he went to Baltimore to work with Halsted. His official position was assistant resident of the Johns Hopkins Hospital. In 1897 he succeeded Joseph C. Bloodgood as resident. When we went to Hopkins to study medicine, Jim Mitchell was resident, having succeeded Cushing who was in Europe for a year's study. When Cushing returned from Europe in 1901, there was a terrible row. The story, as the students heard it, was that Cushing had been given a leave of absence to study neurology under Sherrington, and that he wanted his place in the hospital back. Mitchell, who also had a temper, said that he had no idea of giving up the residency. As a compromise the "Hunterian Laboratory of Experimental Medicine" was built for Cushing and he was given the position of assistant on the surgical staff. His duties were teaching operative surgery to the third year students. The Laboratory was a little building next to the Anatomy Building. In this small place with the grandiloquent name, Cushing gave us a wonderful course in dog surgery. Our technic was as good as if we were operating upon human beings, and we took as careful notes as we would have in the hospital. Cushing would go to the black board and, drawing with both hands, would illustrate what he wanted us to do.

These were important formative years. Cushing's salary was $500 per annum which he was expected to supplement by private practice. He and Thomas B. Futcher joined Henry Barton Jacobs in a bachelor establishment at No. 3 West Franklin Street, next door to Dr. and Mrs. Osler. Here each had separate offices; but they had a common housekeeping arrangement. Each had a latch key to the Osler home. This arrangement seems to have been started by William S. Thayer and Jacobs. Thayer moved out in September 1901 after his marriage. Dr. W. W. Francis, Osler's nephew, frequently moved in when the guest rooms at No. 1 W. Franklin were overtaxed. This idyllic arrangement

lasted until April 1902, when Jacobs married Mrs. Robert Garrett, the widow of the president of the B. & O. R. R. Jacobs moved to the Garrett palace on Mt. Vernon Place and practically gave up private practice. He kept office hours once a week, from twelve to one p.m. on Thursday. He continued, however, his work in tuberculosis.

By 1902, Cushing was earning enough on the side to consider matrimony. Harvey Cushing and Katherine Crowell of Cleveland had been sweethearts for more than ten years. They discussed matrimony from time to time, but always there had been a financial barrier. Now things were different. Accordingly they were married June 10, 1902. This time the bride stayed in No. 3 West Franklin and Futcher, the last remaining bachelor "latch-keyer", stayed on as a member of the household for the next six years. The Cushing family grew apace and in 1908 they moved to 107 East Chase Street, a larger and more modern house, leaving Futcher in sole possession of No. 3 West Franklin. The next year Futcher married the daughter of Palmer Howard, Osler's old teacher.

In the meantime Cushing's work at the Hunterian and in the hospital was growing, especially the gasserian ganglion operations and his work on the pituitary gland. In 1909 he had a paper before the Section on Surgery of the American Medical Association on hypo- and hyper-pituitarism which introduced new ideas and words into medicine. His chapter on surgery of the head in Keen's System of Surgery which appeared in 1908 and his monograph, "The Pituitary Body and its Disorders" (1912), added tremendously to his reputation as a brain surgeon. He was offered professorships of surgery in Yale, University of Virginia, New York University, Washington University, and Western Reserve. He finally accepted the one from Harvard, chiefly because the proposed new hospital, the Brigham, would embody ideal conditions for teaching.

Cushing went to Boston in 1912 and received a warm reception in intellectual and medical circles. The new hospital was opened the beginning of 1913. Henry A. Christian was Physician-in-chief and Cushing Surgeon-in-chief. Fortunately the two saw eye to eye in regard to organizing a teaching hospital, a difficult task at best. In 1914 they became involved in the "Full-time" controversy. Abraham Flexner and the General Educaton Board wanted Harvard to put all clinical branches of medicine under the control of full-time teachers and offered one and a half million dollars to put the plan into effect. Cushing and Christian favored the "whole-service" basis under which they were working. After a thorough discussion, the Harvard trustees rejected the $1,500,000 offer of the General Education Board.

In the Harvard period, Cushing became an international figure with frequent trips abroad to address international congresses, fill important lectureships and to receive fellowships and honorary degrees. They were extremely busy years with the development of a surgical clinic, visting surgeons-in-chief "pro tempore", and attendance upon meetings of important surgical societies. In addition to these routine matters, there was World War I and the Harvard Base Hospital. While he was still in service in France he was extremely ill with what was called a polyneuritis of unknown virus origin. It was probably a bilateral thrombosis of the femoral arteries, for at his autopsy these vessels were found to be completely obliterated. He had hardly recovered from his war experiences when Lady Osler asked him to undertake the *Life of Sir William Osler*. This biography, which required four years to write, turned out to be an outstanding work and won the Pulitzer Prize.

When he reached the retirement age at Harvard, a chair of Neurology was created for him at Yale. Here he continued to teach although at a more moderate tempo. His legs were giving him trouble and he did no operating. Again he reached a retirement age,

this time at 67, and he was made Director of Studies in the History of Medicine. He now had more time to devote to his books. When he decided to leave his truly magnificent library to Yale, he persuaded Arnold Klebs and John Fulton to do the same with theirs, and for some years they had been adding to their respective collections with this idea of supplementing each other's library. Cushing had also been working with the architect, Grosvenor Atterbury, on plans for a building suitable for housing these splended collections. A few days before he died word came that the trustees had authorized the appropriation of $600,000 for the building.

It is located in the center of the Medical School, as Cushing desired, and was dedicated June 15, 1941.

Cushing died of coronary occlusion October 7, 1939, at the age of 70, full of honors and mourned by disciples all over the world.

The Hundredth Anniversary of Walter Reed's Birth

ONE hundred years ago, on September 13th, Walter Reed was born in the temporary Methodist parsonage in Gloucester C. H. The place now belongs to the Medical Society of Virginia, and has been restored and cared for by a committee headed by Dr. Clarence Porter Jones. At the present time Dr. Harry Tabb is chairman of the committee, and the ladies of the Auxiliary of the Mid-Tidewater Medical Society are members of the committee.

To bring September 13, 1851 into proper historical focus, one should review some of the highlights of military medicine. There have been great military surgeons before the advent of Walter Reed. Ambroise Paré comes to mind. It was he who stopped the use of boiling oil in the treatment of gunshot wounds, a truly heroic treatment in pre-anesthetic times. In 1536, when the French took the Castle of Villaine by assault, there were so many wounds that the supply of oil gave out. Paré substituted for the standard hot oil, a mixture of egg yolk, oil of roses, and turpentine. Paré slept little that night, expecting to find those treated in such an unorthodox manner, dead, or at least in extremis. Much to his surprise, they were much better off than the others. Paré had the sense to recognize the value of the new dressing, or rather the harmfulness of the old method of treatment.

Anesthesia was first used in military surgery in the Civil War, and then only half-heartedly. Stonewall Jackson, you may remember, related that he distinctly felt Dr. McGuire saw through the bone, when he amputated his arm under chloroform anesthesia. Mention should be made of Dominique Jean Larrey, Surgeon-in-Chief of Napoleon's "Grande Armee", who introduced the ambulance and many other improvements.

Nevertheless, when Walter Reed was born, the lot of the soldier was a hard one. Florence Nightingale was twenty-eight years old, but the Crimean campaign was three years in the future. War wounds, with their attendant gangrene and tetanus, were bad enough, but they were insignificant beside the mortality and suffering due to camp diseases.

The Army surgeon had no authority in sanitary matters until after the Spanish War. They were held in low esteem by the line officers and engineers. The camps through the South were notorious on account of the prevalance of typhoid fever and diarrhoeal diseases. An investigation by Major Walter Reed, Victor C. Vaughan and Edward O. Shakespeare, incriminated the filthy feet of the fecal feeding fly. Further-

more, their report was so complete and comprehensive, that Surgeons of the Army were given authority in sanitary matters.

Dr. Reed's great achievement, however, came two years later in Cuba. Yellow fever was a dread disease that killed quickly and spread terror when it appeared in a community of non-immunes, similar to that of the "Black Death" of the Middle Ages. For hundreds of years it had been endemic in the West Indies, and at all too frequent intervals, epidemics would sweep the Atlantic Seaboard, the Gulf States and the Mississippi Valley. It defied all quarantine and there was no known way of stopping such an epidemic. The cause of the disease was unknown and its means of transmission a mystery. Carlos Finlay had come nearest to the truth when he demonstrated that yellow fever occurred only where there were stegomyia mosquitoes, as the *Aëdes aegypti* was then called. (Dr. Finlay called this mosquito *Culex fasciatus*). He even tried to prove his theory by allowing an *Aëdes aegypti* to bite a fever patient and then bite a non-immune, but nothing happened. Henry Rose Carter had already shown why this would be so, when by epidemiologic methods he showed that a lapse of 12 to 15 days must occur before a case of yellow fever becomes dangerous to others. We now know that the virus of yellow fever must go through a cycle in the female mosquito before she can inject it into the body of a victim, but in 1900 these facts had not been put together. The world was inclined to believe that the B. icteroides of Sanarelli was the cause of the disease and the disease was still unconquered. It had already defeated the English in 1762, and Napoleon's picked troops in 1800, and was in a fair way of annihilating the U. S. Army of Occupation when Major Reed was detailed as head of a Board, consisting of James Carroll, Aristide Agramonte and Jesse W. Lazear, to study yellow fever in Cuba. This was no ordinary laboratory investigation free from danger. Carroll contracted the disease from a planned experiment, but fortunately recovered. Lazear, in the course of his investigations, was bitten by an infected mosquito, contracted the disease and died of it. In nine months the Commission had proved that yellow fever was caused by a virus that passed through a Berkefeld filter; that the virus is present in the first few days of the disease; that it is transmitted by the female, *Stegomyia fasciatus,* and that at least 12 days must elapse after the female mosquito bites a patient before she can transmit the disease, although yellow fever can be experimentally produced by the subcutaneous injection of blood taken from the general circulation during the first and second days of the disease. Major Gorgas was chief sanitary officer of Havana at the time. He at once put the Commission's findings to a practical test, and in three months Havana was free from yellow fever—for the first time in three hundred years.

The Annual Meeting at Virginia Beach.

MARK October 7-10 on your calendar and be sure to be on hand for the annual meeting of the Medical Society of Virginia at Virginia Beach. The Norfolk County Medical Society is planning for a big meeting. The Cavalier Hotel has added another meeting place in the Beach Club so as to be able to take care of the convention's needs. October is a delightful time at the Beach. One year, many will remember, was dreadfully hot and many members went in swimming. Usually, however, the weather is perfect, sun, fresh sea breezes, musical surf, and enchanting distance; just the right stimulating environment for a successful meeting. The program, which is published in this issue of the MONTHLY, is a varied and most interesting one. It

is remarkable how much new work is being done in clinical investigation by members of the Society. There will be a panel discussion on Tuesday morning and a clinical-pathological conference on Wednesday morning. On Monday afternoon experts from the American Medical Association headquarters will lead a discussion on, "What the American Medical Association Means to You". We are happy to announce that Dr. Louis H. Bauer, President-Elect of the A. M. A. will be present and will take part in the discussion.

The scientific exhibits, which have become such a feature of our annual meetings, promise to be better than ever, and the technical exhibits will be more numerous. All in all the 1951 session will be one that no Virginia doctor will want to miss.

SOCIETY PROCEEDINGS

Augusta County Medical Association.

The annual meeting of this Association was held at the Woodrow Wilson Rehabilitation Center at Fishersville on May 2nd. The program was conducted by Dr. Herbert W. Park, Director of Medical Services, and consisted of demonstration of the rehabilitation methods and facilities available at the Center.

At this meeting the following officers were elected: President, Dr. J. F. Hubbard, Waynesboro; vice-presidents, Dr. Boyd H. Payne, Dr. C. W. Putney and Dr. McKeldon Smith, all of Staunton; secretary, Dr. William G. Painter, Mount Sidney; treasurer, Dr. Thomas G. Bell, Staunton; and censor, Dr. J. L. Davis, Waynesboro. After the meeting, Dr. Hubbard reported his inability to serve and Dr. Payne is acting president until a more definite arrangement is made.

Fauquier County Medical Society.

Recently elected officers of this Society are: President, Dr. M. B. Hiden, Warrenton; vice-presidents, Drs. Charles B. Martin of Manassas and O. L. Huffman of Marshall; and secretary-treasurer, Dr. James L. Dellinger of Warrenton.

NEWS

Conference on Crippled Children.

A Conference on Crippled Children will be held September 27-28 at the Baruch Auditorium of the Medical College of Virginia in Richmond. All organizations in the state which are interested in crippled children have been invited to attend.

The two-day session is being made possible by The Nemours Foundation. This organization has asked the Virginia Council on Health and Medical Care to sponsor the conference. Dr. William T. Sanger, as president of the Council, will preside at the meetings. Serving under him as co-chairmen of Program Planning are Dr. Louise Galvin, director of the Bureau of Crippled Children, State Health Department, and Dr. Vernon Lippard, dean of the Department of Medicine, University of Virginia.

According to Edgar J. Fisher, Jr., director of the Virginia Council on Health and Medical Care, the purposes of the conference are:

1. To get acquainted with all services offered crippled children in the state. (resources and facilities)

2. To make recommendations concerning how the present resources can be utilized in order to make the total program more effective.

3. To determine the elements of an adequate program for care, education and treatment of crippled children.

4. To set up a list of problems relative to the present situation in Virginia.

Discussions at the conference will center around the following topics: speech and hearing, orthopedic and polio, cerebral palsy, epilepsy, rheumatic fever and cardiac. Questions which will probably be discussed at the meetings have been compiled and submitted to the delegates for their consideration before the conference begins.

Each organization invited to attend has been ex-

tended an invitation to provide exhibits for the conference.

Plans have been made to hold a conference banquet on September 27 at the Jefferson Hotel following a reception which Mrs. Alfred I. duPont is giving for the delegates.

Among the official agencies which will be represented at the conference are the State Health Department, State Board of Education, State Department of Mental Hygiene and Hospitals, and the State Department of Welfare and Institutions.

Among the non-official agencies which will send delegates are the National Foundation for Infantile Paralysis, Virginia Society for Crippled Children and Adults, Cerebral Palsy Association, Southwest Virginia Society for Crippled Children and the Crippled Children's Hospital.

All doctors who can attend the Conference are cordially invited and are asked to notify Mr. J. Edgar Fisher, Director of the Virginia Council on Health and Medical Care, 102 East Franklin Street, Richmond 19.

Please Visit Our Technical Exhibitors.

Intermissions will be designated in the scientific sessions to allow members to visit the Technical Exhibits and we urge all members to avail themselves of this privilege. The products are attractively presented and doctors meet with these exhibitors who can pass on a lot of information about their newer products.

These exhibitors pay for this opportunity to present their products and their money adds greatly to the success of our meeting. Visiting and registering with the exhibitors and talking with them is the way each one can show his appreciation.

The Southwestern Virginia Medical Society

Will hold its Fall meeting in conjunction with the Roanoke Academy of Medicine at Hotel Roanoke on September the 27th. The program is as follows:

2:00 P.M.

1. Ladies' Fashion Show—Hotel Roanoke.
2. Call to order—Dr. James P. King, President, Southwestern Virginia Medical Society.
3. Welcome address—Dr. E. G. Gill, President, Roanoke Academy of Medicine.
4. "Treatment of Anemias"—Dr. Byrd Leavell.
5. "Common Surgical Pediatric Problems"—Dr. John L. Keeley.
6. "Therapy of Microbial Diseases, with a discussion of certain limitations"—Dr. T. E. Woodward.
7. Business meeting.

6:00 P.M.

8. Social hour.
9. Banquet
   a. Invocation.
   b. President's address—Dr. James P. King.
   c. Dr. W. O. Thompson.
   d. "Place of Histocytologic Technic in Cancer Diagnosis in Gynecology and Obstetrics"—Dr. Bayard Carter.
   e. Adjournment.

Medicines Destroyed or Damaged by Flood in Missouri, Kansas and Oklahoma Drug Stores to be Replaced Without Charge by Parke-Davis.

Parke, Davis & Company announced it would replace without charge all Parke-Davis products damaged or destroyed by the flood in retail drug stores throughout Missouri, Kansas and Oklahoma. Graydon L. Walker, director of U.S. and Canadian sales, said a survey showed scores of drug stores in the three-state area had been damaged in varying degree, with some being destroyed completely.

Parke-Davis field representatives will help the druggists to take inventory of their stocks, and will work under the supervision of C. U. Fisher, manager of the Kansas City branch (21st and Grand). The company promptly sent to the flood-stricken area 32,000 pounds of Kreso Dip disinfectant, supplies of typhoid-parathyphoid vaccine and other medicines.

Parents' Study Guide.

How parents of cerebral palsied children can effectively come together to exchange experiences, secure information and participate in developing services for cerebral palsied children is outlined in the new 76-page "Parents' Study Guide," published by the National Society for Crippled Children and Adults, Chicago. This was prepared by the professional and technical staff of the National Society for Crippled Children and Adults, with the valuable assistance of other persons and organizations, under the direction of Verna S. Carlisle, the Society's Child Development and Parent Education Consultant.

Copies are available from the National Society for

Crippled Children and Adults, 11 South LaSalle Street, Chicago 3, Illinois. For one to 25 copies, the cost is 50 cents each; 26 to 100 copies, 45 cents each; and more than 100 copies, 40 cents each.

Motion Pictures.

A revised catalog of motion pictures available through the Committee on Medical Motion Pictures may now be secured. Copies will be sent to the secretary of each county and state medical society. This catalog lists sixty-two 16mm. films, most of which are at the professional level. Fourteen of these films are suitable for showing to lay groups. Eight new films have been added. Copies are available upon request from: Committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois.

Dr. Altamont H. Bracey,

An alumnus of the Medical College of Virginia, resigned recently from the staff of the Stevens Clinic Hospital, Welch, West Virginia, where he had been since 1934, and is now located in South Hill, Virginia.

Drs. Glendy and Crockett.

Drs. R. Earle Glendy and Charles L. Crockett, Jr., of Roanoke, announce their association in the practice of internal medicine, with special interests in diseases of the heart and circulation and diseases of the blood. Their offices are in Carlton Terrace Building.

Dr. Hussey New GP Associate Editor.

Dr. Hugh H. Hussey, Associate Professor of Medicine at Georgetown University, Washington, D. C., has been appointed associate editor of *GP,* published by the American Academy of General Practice, as the rapid growth of the publication during the past year and one-half has thrown a steadily increasing burden on the medical editor, Dr. Walter C. Alvarez.

Dr. Hussey brings to his new post an imposing record of experience in clinical medicine, teaching, writing and editing. In addition to his position as associate professor of medicine on the Georgetown faculty, he has, for some years, served as associate editor of *The Medical Annals of the District of Columbia.*

News From the University of Virginia, Department of Medicine.

Dr. Oscar Swineford, Jr., addressed the West Virginia State Medical Association on "The Role of the Practitioner in the Management of Asthma" and the West Virginia Academy of Ophthalmology and Otolaryngology on "The Use of ACTH and Cortisone in Ophthalmology and Otolaryngology" at their annual meetings at the Greenbrier Hotel, White Sulphur Springs, July 20th.

The Department of Pathology, of the University, has been awarded a research grant amounting to $5,130, for June 1951, to June 1952, from the Surgeon General, U. S. Army, for *Histochemical Study of Repair.*

Contracts for Medical research have been granted the Department of Biochemistry of the University, by the Office of the Surgeon General, Department of the Army, Medical Division of the Chemical Corps and the Cancer Institute of the U. S. Public Health Service.

Dr. J. Hamilton Allan, Chairman of the School of Orthopedics, Department of Medicine of the University, left August 3, to visit military hospitals with orthopedic patients in Japan, Korea, the Philippines and Okinawa of the Far East Command, U. S. Department of the Army.

Dr. Allan will make ward rounds with attending physicians, advise on patient care, lecture to the Army Medical Staff, and make a report to the Surgeon General on the care of patients in the Far East Command.

Among the scholarships awarded to students of the University Medical School are those of $1,000 each to twenty students, residents of Virginia, who have signed agreements to serve after graduation and internship in a rural community selected by the State Health Commissioner. These scholarships are renewable over a four-year period.

Fiske Fund Prize Dissertation.

The Trustees of the Caleb Fiske Fund of the Rhode Island Medical Society announce the follow-

ing subject for the prize dissertation of 1951: "THE PRESENT STATUS OF ADRENO-CORTICAL HORMONE THERAPY—ITS USES AND LIMITATIONS.

For the best dissertation a prize of $200 is offered. Dissertations must be submitted by December 2, 1951, with a motto thereon, and with it a sealed envelope bearing the same motto inscribed on the outside, with the name and address of the author within. The successful author will also agree to read his paper before the Rhode Island Medical Society at its Annual Meeting in May, 1952. Copy must be typewritten, double spaced and should not exceed 10,000 words. For further information write the Rhode Island Medical Society, 106 Francis Street, Providence 3, Rhode Island.

Annual Spring Congress.

The Twenty-fifth Annual Spring Congress of the Gill Memorial Eye, Ear and Throat Hospital will be held April 7th through the 12th, 1952 at Roanoke, Virginia. The following doctors will be among the guest speakers:

Dr. Francis H. Adler	Dr. Henry M. Goodyear
Dr. Hermann H. Burian	Dr. Bayard T. Horton
Dr. Paul A. Chandler	Dr. Howard P. House
Dr. John M. Converse	Dr. C. L. Jackson
Dr. Kenneth M. Day	Surgeon General Lamont Pugh
Dr. John H. Dunnington	Dr. Hunter H. Romaine
Dr. Edwin B. Dumphy	Dr. Frank B. Walsh
Dr. Watson Gailey	Dr. James C. White

Outstanding Medical Exhibit for A.M.A. Meeting.

Plans are being made for an outstanding scientific exhibit in connection with the Clinical Session of the American Medical Association to be held in Los Angeles, December 4 to 7.

"Main emphasis of the exhibit will be placed on the teaching value for the physician in general practice, but the interest of the specialists will not be overlooked."

The scientific exhibit will be located on the balcony floor of the Shrine Convention Hall, easily reached by stairways from the technical exposition on the first floor and connecting with Al Malaikah Temple, in which will be located the lectures, clinical presentations, television and motion pictures.

Dr. E. J. McCormick of Toledo is chairman of the Committee on Scientific Exhibit and Dr. Thomas G. Hull, of Chicago is director of the scientific exhibit.

Essay Award.

The Board of Regents of the American College of Chest Physicians offers a cash prize award of two hundred fifty dollars ($250.00) to be given annually for the best original contribution, preferably by a young investigator, on any phase relating to chest disease.

The prize is open to contestants of other countries as well as those residing in the United States. The winning contribution will be selected by a board of impartial judges and the award, together with a certificate of merit, will be made at the forthcoming annual meeting of the College. Second and third prize certificates will also be awarded.

All manuscripts submitted become the property of the American College of Chest Physicians and will be referred to the Editorial Board of the College journal, "Diseases of the Chest," for consideration. The College reserves the right to invite the winner to present his contribution at the annual meeting. Contestants are advised to study the format of "Diseases of the Chest" as to length, form and arrangement of illustrations, to guide them in the preparation of the manuscript.

The following conditions must be observed:

(1) Five copies of the manuscript, typewritten in English, should be submitted to the executive office, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois, not later than April 1, 1952.

(2) The only means of identification of the author or authors shall be a motto or other device on the title page, and a sealed envelope bearing the same motto on the outside, enclosing the name of the author or authors.

American Board of Obstetrics and Gynecology.

Effective August 10th, 1951, the office of the American Board of Obstetrics and Gynecology will

be located in Cleveland, Ohio. All communications should be addressed to: Robert L. Faulkner, M.D., Secretary-Treasurer of the Board at 2105 Adelbert Road, Cleveland 6, Ohio.

Dr. John C. Neale, Jr.

Director of local health services with the State Department of Health, has resigned this position, effective August 31. He has not announced his future plans.

News from State Department of Health.

Dr. J. A. Love, Health Officer of the Halifax Health Department, resigned at the close of business August 31.

The Maryland Academy of General Practice

Will hold its third assembly at Lord Baltimore Hotel, Baltimore, on October 4th, starting at 9:30 a.m. There will be morning, afternoon and evening sessions. A number of interesting subjects will be presented and there will also be a motion picture and a tele-clinic, giving highlights by sound-film of the annual assembly of the Academy in San Francisco in March. The evening session will start with a banquet at 6:00 p.m.

Further information may be obtained from Dr. Nathan E. Needle, vice-president, 2314 West North Avenue, Baltimore.

100 Years Ago—The Stethoscope.

In *Southern and Western Masonic Miscellany* (Charleston, S. C.) August 1851, is published this interesting item of 100 years ago, noted by Mr. John A. Mirt, of the A. M. A. Public Relations Department;

"Among the exchanges with which we are favored is '*The Stethoscope and Virginia Medical Gazette*'. This is an excellent monthly journal, devoted to medicine and the collateral sciences—is published at Richmond, and edited by Dr. P. Claiborne Gooch, a skilful physician and a zealous member of our fraternity. To our medical brethren we with great pleasure and confidence can recommend the patronage of this work. The terms are $3 per annum in advance, or $4 if paid at the end of the year."

Dr. Austin I. Dodson,

Richmond, will be among the twenty-eight scientific lecturers to speak at the 86th annual session of the Michigan State Medical Society in Grand Rapids, September 23-28. His subject will be "The Indication for Surgery in the Treatment of Nephroptosis".

The University of Virginia,

Department of Medicine, Charlottesville, will have a Conference on Obstetrics and Gynecology in General Practice, on October 19. The Tiffany J. Williams Memorial Lecture will be held that evening.. There will be promient speakers from Washington, D. C., and Durham, N. C. No tuition fees are charged and all Virginia physicians are welcome.

Dr. E. G. Gill,

Roanoke, addressed by invitation The Greenbrier Valley Medical Society on August 8th. His paper entitled "New Techniques in Cataract Extractions" was illustrated with a movie film. The meeting was held in the Greenbrier Clinic, White Sulphur Springs, West Virginia.

A Series of Autumn Lectures at Duke.

Duke University School of Medicine and Duke Hospital announce a series of lectures sponsored by the North Carolina Academy of General Practice. These will be held on October 13, October 27, and November 10, from 10 a.m. to noon, and will be in Page Auditorium, West Campus. An added attraction will be foot ball games to be held in the afternoons.

Situation Wanted.

Young physician desires assistantship with general surgeon or general practitioner doing surgery; will consider general practice assistantship without surgery; eastern Virginia only. Write "Eastern Virginia", care Virginia Medical Monthly, 1105 West Franklin Street, Richmond 20, Va. (*Adv.*)

Wanted Doctor

At once for a small hospital in Southwest Virginia —either general practitioner or surgeon. Salary $1,000.00 per month, with maintenance for single man. Write "Hospital in Need", care this journal at 1105 West Franklin Street, Richmond 20. (*Adv.*)

Wanted—

Medical-Surgical partnership or location having or planning community hospital; will consider private hospital partnership. Write "Partnership", care this journal, 1105 West Franklin Street, Richmond 20. (*Adv.*)

OBITUARIES

Dr. Marshall T. Vaden,

Well known physician of Buena Vista, died August 8, after an illness of more than a year. He was sixty-four years of age, and a graduate of the Medical College of Virginia in 1915. After a short time at Fairfield, he moved to Buena Vista where he had since made his home. He was a physician and surgeon for the Chesapeake and Ohio Railway for a number of years as also for the Southern Seminary. He was a member of the Medical Society of Virginia and of the American Medical Association. His wife and a large family connection survive him.

Dr. Frederick McCulloch Morrison,

Prominent ophthalmologist of Lynchburg, died at his home there on July 23rd, after a long illness. He was forty-six years of age and a graduate of the University of Virginia, Department of Medicine, in 1930. He was a past president of the South Piedmont Medical Society, an honorary member of the Virginia Society of Otolaryngology and Ophthalmology, a member of his local and State societies, the American Medical Association and of the American Academy of Ophthalmology. He is survived by his wife and three children.

Dr. William Bradford Newcomb,

A prominent Norfolk physician, died at his Virginia Beach home, August 1, following a heart attack. He was sixty-five years of age and graduated from Johns Hopkins Medical School in 1913 and, after three years additional training began the practice of internal medicine in Norfolk. He was a former president of the Norfolk County Medical Society, and a member of the Medical Society of Virginia and American Medical Association. A brother and sister survive him.

Dr. Walter S. Whitmore,

Prominent physician of Staunton, died July 31, while in his office treating a patient. He was seventy-seven years of age and a graduate of the University of Virginia in 1901. After completing an internship at St. Vincent's Hospital, Norfolk, he located at Mount Sidney where he practiced until he moved to Staunton in 1912. He was a member of his County and State Societies, of the American Medical Association and of several local societies. He was long on the staff of King's Daughters Hospital in Staunton, a charter member of the local Kiwanis Club, the Sons of Confederate Veterans, and was a Mason and Shriner.

Dr. Carroll G. Bennett,

Well known physician of Martinsville, died August the 10th at the Martinsville Hospital where he had been a patient for several weeks. He was forty-seven years of age and a graduate from the Medical College of Virginia in 1928. Before locating in Martinsville in 1947, he had practiced for fifteen years at Bishop in Southwest Virginia. He was a member of the Medical Society of Virginia and of the American Medical Association. His wife and two sons survive him.

Dr. James H. Walton,

For many years a resident of Arlington, died at his home there on August 8, at the age of sixty-nine. He was a graduate of the Baltimore Medical College in 1907 and had been a member of the Society since 1913. For a time he practiced in Dinwiddie County before moving to Arlington. He is survived by his wife and two children.

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GUEST EDITORIAL

Factors Concerned with Prognosis of Acute Myocardial Infarction

IT HAS been thirty-nine years since Herrick's classical description of coronary artery occlusion was published. All clinicians have become familiar with the high mortality incidence and the great frequency of thrombo-embolism seen in this syndrome.

When the fundamental architecture of the coronary circulation is borne in mind it is easy to understand why there must be much uncertainty in the prognosis. In a physiological sense the coronary arteries are end-arteries, even though there are inter-communications between the three main coronary branches. Therefore, the occlusion of a major artery is followed by death of the muscle which it supplies. Furthermore, there is marked variability in the coronary outflow from patient to patient. This varies between thirty and ninety per cent of the inflow in a normal individual. The drainage into the right heart occurs via the coronary sinus, the accessory coronary veins and by way of the numerous thebesian vessels. These thebesian channels are very scant in the left ventricle which accounts for the fact that ninety-eight per cent of all infarctions occur on the left side of the heart. These rare right infarctions may occur when mural thrombi obstruct the thebesian drainage into the right ventricle. With this fundamental cardiac anatomy in mind, it is not safe to predict the outcome in any single individual following an attack of acute coronary occlusion.

In a recent review of four hundred consecutive patients, two hundred and ninety-two of whom were treated with anticoagulants, it has been possible to draw some conclusions as to the immediate prognosis. The elevation of the total white blood count and the degree of elevation of the rectal temperature perhaps reflect the extent of necrosis following the occlusion of a vessel. When the rectal temperature persisted above one hundred and two degrees in this group of patients the mortality incidence was sixty per cent. In those patients with a white blood count exceeding fifteen thousand, the death rate was double the normal mortality incidence.

The age of the patient bore a direct relation to the prognosis. Eighty-five per cent of the deaths in these patients occurred between the ages of fifty and sixty-five. No deaths occurred under the age of thirty and two deaths occurred under the age of forty.

In those patients who were hospitalized for their first attack, the mortality rate was fourteen per cent as compared with an incidence of thirty-one per cent who had two myocardial infarctions. The death rate in those patients who had three or more clinical occlusions was fifty per cent. In other words, the greater the extent of myocardial damage for any given patient the higher we must expect the mortality rate to be.

Peripheral thrombo-emboli occurred in fifteen per cent, and of this special group, one-half died. In the group who had anticoagulants, embolism occurred in six per

cent. On the basis of these data, thrombo-emboli occurring subsequent to a coronary occlusion presented a serious hazard to the patient. These emboli occurred in the cerebral arteries, mesenteric vessels and the pulmonary system—one-half occurring in the latter circuit.

One-fourth of the deaths occurred during the first twenty-four hours due to shock and arrhythmia. Rupture of the heart occurred in two patients. The appearance of arrhythmia of the heart, not including extra systoles, was a frequent complication. When ventricular rhythm occurred the prognosis was exceedingly grave. This complication was recorded electro-cardiographically in two per cent and death occurred in all, with two exceptions. The mortality incidence was slightly higher in the females and in those with a history of hypertension.

With anticoagulants the mortality incidence was seventeen per cent, which is not as favorable as the incidence reported by Wright. It is hopeful that this rate may be reduced by improvement in future therapy, with particular reference to the use of more dependable anticoagulants. The judicious use of oxygen, morphine with atropine and papaverine were important aids in the saving of lives.

MARSH MCCALL, M.D.

Dr. McCall is a graduate of the Medical College of Virginia, Class 1930, and is now Chief of the Medical Service at the Beekman-Downtown Hospital, New York City.

Bibliotheca Obstetrica

[HILL (SIR JOHN) 1716-75.]

LUCINA SINE CONCUBITU. A Letter Humbly address'd to the Royal Society; in which is proved by most Incontestible Evidence, drawn from Reason and Practice, that a woman may conceive and be brought to bed without any Commerce with Man. First Edition, *London, M. Cooper,* 1750.

The extremely scarce first edition of Hill's famous skit, directed against the Royal Society when they refused him a nomination for fellowship. Osler had only the first edition in French, and notes that the earliest English edition he can trace in the British Museum, Surgeon General's Catalogue and other libraries is the second. The tract was signed: "Abraham Johnson".

Osler has the following to say about the author: "Beginning as an apothecary, Hill became a playwright and actor, a journalist, and a translator. He obtained a medical diploma from St. Andrews and his knighthood from Sweden. He was a versatile, unscrupulous man, with considerable abilities, great perseverance, and unlimited influence. Most of his books (84 are listed in the D.N.B.) are trashy compilations, but some of his botanical works did good service, and the first Linnean flora of Britain was due to him." Garrick wrote on Hill the well known epigram:

"For physic and farces his equal there scarce is;
His farces are physic, his physic a farces is."

CHRONIC LUNG FAILURE*

John L. Guerrant, M.D.,†
Charlottesville, Virginia.

Lung failure is a common condition but the term is not often used and its presence is often overlooked. It is frequently confused with either heart failure or asthma. The confusion with heart failure is due to the fact that the major symptom of lung failure, exertional dyspnea, makes doctors as well as patients think of heart disease. It is confused with asthma because so many patients with lung failure wheeze. Every physician should be able to differentiate chronic lung failure from heart disease, from asthma, and from other causes of chronic dyspnea. The purpose of this report is to define and discuss lung failure, to state the criteria by which it may be differentiated from other causes of chronic dyspnea, and to describe some useful methods of treatment.

A single normal respiration consists of a complicated chain of events initiated by an impulse arising in the respiratory center and ending when blood saturated with oxygen leaves the alveolar capillary[1]. Table I shows the links in this chain. Respiratory failure is likely to accur if the chain is weakened or broken at any point. The break may be due to various diseases. Common examples are a hemorrhage into the respiratory center or a perforating wound into the pleural space. If the disease is a chronic one that involves the lung itself or its covering membrane it may lead to chronic lung failure. This discussion will be limited to diseases that involve the bronchi, the lung parenchyma and the pleura.

Table I

Essential Links in the Chain Necessary to Initiate and Complete a Single Normal Respiration

Functioning respiratory center.
Intact nerve supply to lungs, diaphragm, and chest wall.
Intact thoracic cage.
Patent air passages.
Normal intrapleural pressures with an elastic pleura.
Normal lung elasticity and volume.
Permeable alveolar membrane.
Adequate circulation of normal blood.

The purpose of the lungs is to provide for the exchange of oxygen and carbon dioxide between the blood in the pulmonary capillaries and the external air. Lung failure is present whenever they are so diseased as to be unable to carry out this function well enough to meet the normal needs of the individual. The usual causes of lung failure:

Pulmonary emphysema.
Pulmonary fibrosis.
Cystic disease of the lung.
Bronchial distortions and obstructions.
Chronic pleurisy.
Obstruction to the pulmonary circulation.

These will be discussed briefly.

Overinflation and distention of the alveoli is known as emphysema[2]. There are three types:

Compensatory or *complimentary emphysema* is associated with localized areas of loss of lung volume or bronchial obstruction. If the cause is removed the changes may be reversible.

Chronic hypertrophic emphysema is characterized by loss of elastic tissue from the lungs and destruction of the walls between the alveoli. These changes are irreversible.

Senile or *atrophic emphysema* occurs in old people and usually does not lead to severe symptoms.

Chronic hypertrophic emphysema is a frequent cause of lung failure. Its etiology is not well understood; it frequently follows one or more of the following:

Long-standing asthma.
Repeated or chronic bronchial and lung infections.
Pulmonary fibrosis secondary to irritant gases or dusts.
Chest deformities.
Localized loss of lung tissue.

Occasionally a relatively young man will be found with disabling emphysema that seemed to follow an acute virus infection of the lungs.

The cardinal symptom of emphysema is exertional dyspnea. Cough, wheezing and mucoid or purulent sputum are common. Cyanosis may be present in

†From the Allergy-Arthritis Division, Department of Internal Medicine, University of Virginia Medical School, Charlottesville, Virginia.

*Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 8-11, 1950.

advanced cases. Examination shows the chest held in a position of inspiration. There is increase in the AP diameter, increase in dorsal kyphosis, prominent clavicles, and minimal motion of the chest wall with respiration: the so-called barrel chest. The accessory respiratory muscles are often used. There is increased resonance to percussion with decrease of cardiac dullness and depression of the area of liver dullness. The diaphragm is depressed and its motion is limited. The breath sounds are soft, distant, and expiration is prolonged. Wheezes and rhonchi are often present. X-ray examination can not accurately determine the degree of impairment of lung function. Films are likely to show a small, midline heart, decrease in normal lung markings interspersed with areas of fibrosis, and flattening of the diaphragm. Bullae or blebs may be present. On fluoroscopy, motion of the diaphragm is limited and slow.

The vital capacity is nearly always reduced. In addition, the time required for a complete expiration is markedly prolonged. The vital capacity can usually be increased and the expiration time decreased by the use of broncho-dilators such as adrenalin, ephedrine, aminophyllin, or atropine. Lung function studies show increase in residual air as well as poor distribution of the tidal air[3].

Pulmonary fibrosis is also common. When extensive, it leads to disabling dyspnea. It may lead to emphysema. When it is localized to a small area of lung it is not important and does not produce symptoms.

The fibrosis or scarring is caused by a number of agents. Common ones are:

- Inhalation of dusts containing silica, asbestos, beryllium, etc.
- Excessive X-ray exposure.
- Pressure from intrathoracic tumors, cysts, or pleural effusion.
- Repeated acute infections.
- Chronic diseases, such as fungus infections, tuberculosis, or bronchiectasis.

The symptoms of pulmonary fibrosis do not differ from those of emphysema. Dyspnea, cough, sputum and wheezing are common. Cyanosis occurs late. Extensive fibrosis as shown by X-ray may produce no symptoms.

When fibrosis is advanced, examination shows a small and relatively immobile chest. It may be asymmetrical. The heart may be displaced if one side is involved more than the other. Chronic infection in the nose, throat or sinuses is common. X-ray films may show extensive areas of increased density. There are usually adhesions to the diaphragm. Fluoroscopy shows poor motion of the diaphragm. Laboratory studies may show tubercle bacilli, fungi, or various other bacteria. Vital capacity is reduced. There may be a prolonged expiration time. Lung function studies show that the vital capacity and maximal breathing capacity are usually reduced. The residual air is not increased in contrast to emphysema[4].

Lung cysts may be multiple or single. They may be congenital or acquired. When single, small and uninfected, they usually cause no symptoms. If large and multiple, they may cause complete disability. One would expect the symptoms to be variable. This is so. Cough, dyspnea, cyanosis, repeated respiratory infections, mucoid or purulent sputum, recurrent pneumonia, clubbed fingers and hemoptysis should make one think of cystic disease. The diagnosis can only be made adequately by X-ray examination.

Chronic bronchial or tracheal stenosis occur occasionally. Common causes are: scarring from old infections or trauma, tumors within or outside the lumen of the tracheo-bronchial tree, aneurysm, foreign body, or enlarged nodes. The lung scarring and contracture that follows chronic lung infection such as tuberculosis or abscess may cause bronchial distortion and stenosis. The stenosis is likely to cause atelectasis, lung suppuration or wheezing. The wheezing may be localized at the site of the stenosis or it may be diffuse due to widespread reflex bronchospasm. In either case dyspnea may be great. Cough is often very annoying and productive of mucoid, purulent or blood-streaked sputum.

The thickened pleura from chronic pleurisy may almost immobilize a portion of the lung. If it is extensive and bilateral, severe dyspnea will result. There may be no symptoms. The diagnosis can be made from a history of old pleurisy and from the X-ray findings. X-ray films may show minimal changes even in the presence of severe disease.

Chronic pulmonary hypertension due to disease of the pulmonary arteries occurs occasionally. It may be due to congenital abnormalities, pulmonary arteriosclerosis, multiple emboli or thrombi, aneu-

rysm or endarteritis obliterans of the smaller pulmonary arteries[5]. Symptoms are dyspnea, cyanosis and eventually right-sided heart failure. Pulmonary artery disease is usually not diagnosed clinically and is found as a surprise at autopsy. One should suspect it in the presence of a loud pulmonic second sound; physical, X-ray or electrocardiographic evidence of right ventricular hypertrophy; unexplained right heart failure; dilated pulmonary vessels seen in chest X-rays.

There are many causes of dyspnea. It is unusual for lung failure to be confused with central nervous system lesions, chest injuries, anemia, acidosis, obesity, hyperthyroidism, etc. However, it is commonly confused with heart failure and chronic asthma. At times it is very difficult to make a correct diagnosis. The correct diagnosis can usually be reached by careful history, and other examinations used for the diagnosis of chronic infections and allergy of the respiratory tract and cardiovascular disease. When available, lung function studies are of great value.

The problem of differential diagnosis is further complicated by the fact that lung failure not uncommonly occurs with either heart failure or chronic asthma. Occasionally all three occur together. When they occur together, each should be recognized and treated.

Characteristics that aid in differentiating heart failure and asthma from lung failure are listed in Tables II and III.

The diseases that usually cause lung failure are chronic, progressive, and potentially disabling. Each has irreversible structural changes. They are rarely cured. However, if improvement rather than cure is a worthwhile goal, a great deal can be accomplished. A slight increase in lung function may convert a coughing, wheezing and totally disabled man to one who can make a living at a sedentary occupation. If we are justified in strenuous efforts to treat such diseases as leukemia, inoperable cancer and chronic heart failure, we are certainly justified in making just as strenuous efforts to treat chronic pulmonary disease. The efforts may be more rewarding.

Adequate treatment of lung failure is dependent on the recognition and correction whenever possible of all factors affecting each patient. Thorough study will occasionally reveal a lesion such as a solitary cyst or bronchial stenosis that can be removed surgically. This should certainly be done. Most patients with chronic dyspnea will not be benefited by surgery.

Table II

Characteristics that Aid in Differentiating Heart Failure from Lung Failure

Heart Failure	Lung Failure
History of hypertension, rheumatic fever, syphilis or other causes of heart disease.	History of repeated respiratory infections, chronic asthma or pneumoconiosis.
Common symptoms are: edema, orthopnea, palpitation, exertional dyspnea, cough, abdominal discomfort, angina.	Common symptoms are: exertional dyspnea, cough, sputum, wheezing.
Examination may show evidence of heart disease (hypertension, cardiac hypertrophy, murmurs, thrills, arrhythmias, arteriosclerosis, etc.) or heart failure (edema, basal rales, pleural effusion, ascites, large liver, elevated venous pressure, decreased vital capacity, etc.).	Examination may show barrel chest deformity, limited motion of chest on respiration, increased resonance, decreased or absent cardiac dullness, depressed liver, immobile diaphragm, wheezes, distant breath sounds, decreased vital capacity with prolonged expiration time.
X-ray may show enlarged or abnormal heart and aorta shadow.	X-ray may show fibrosis, emphysema, cysts, or other lung disease. Heart is often small, low and in midline. Diaphragm moves poorly.
EKG may be normal or show evidence of any heart disease.	EKG may be normal or show a combination of any of these patterns: 1. Right heart strain. 2. P is small in I, tall, peaked and unnotched in II and III and inverted in chest leads. 3. Low voltage.[9]
Responds to digitalis, diuretics, and salt restriction.	Responds to bronchodilator drugs and control of infection.

TABLE III

CHARACTERISTICS THAT AID IN DIFFERENTIATING UNCOMPLICATED BRONCHIAL ASTHMA FROM PULMONARY FIBROSIS AND EMPHYSEMA

Bronchial Asthma	Fibrosis and Emphysema
Usually begins at early age.	Usually follows years of asthma, repeated respiratory infections, or pneumoconiosis.
Usually occurs with other allergic phenomena.	Often occurs without evidence of allergy.
Frequently precipitated by known contacts.	Precipitating causes usually not recognized.
Characterized by periods of complete remission.	Exertional dyspnea is constant.
Dyspnea may occur at rest.	Dyspnea at rest is unusual.
Examination shows wheezing. Hay fever or respiratory infection may be present.	Examination shows emphysema or no physical abnormalities.
X-ray normal.	X-ray shows characteristic changes of fibrosis or emphysema.
Vital capacity normal between attacks.	Vital capacity always reduced.
Prompt relief from adrenalin or other drugs.	Slow and incomplete response to all treatment.

The real hope for people with chronic lung failure lies in the fact that there is an element of infection or bronchospasm or perhaps both in most of them. Their ability to breath can be increased by controlling the infection and spasm, but little can be done to alter existing degenerative changes.

Infection can nearly always be controlled at least temporarily. It may be in the sinuses, the pharynx, or the bronchi. Wherever it is, all infecting bacteria should be identified. The identity of the bacteria is becoming increasingly important as more and more antibiotics are developed. We have to know which bacteria are present and which antibiotics are most likely to control them. It would be a mistake, for example, to treat an influenza bacillus infection with penicillin when Terramycin would be so much more effective.

When infection is present, identify the bacteria and give the appropriate antibiotic in full doses for an adequate period of time. Most of the antibiotics can be given by aerosol. This method should be used for most chronic bronchial infections. The drugs should be used for at least a week. Often a week is not sufficient.

Repeated cultures are necessary. The original culture will often show penicillin sensitive organisms such as streptococci or staphylococci. After a week of penicillin treatment if symptoms persist, another culture may show that these bacteria have been destroyed and that some of the gram negative organisms are now growing. If Streptomycin or Aureomycin is added, there is frequent dramatic improvement.

Surgical or mechanical procedures to promote drainage are also helpful. These include lavage of the antra, removal of nasal polyps and obstructions, postural drainage and bronchoscopy.

The bronchospasm which manifests itself as wheezing or frank asthma can usually be controlled. Here, too, it is important to know what is causing the asthma. Common causes are:

Sensitivity to such factors as dust, pollens or foods.
Sinus or bronchial infection.
A reflex arising from a nasal polyp or other focus of irritation.
Emotional tension.
Heart failure.

When the cause of the asthma can be identified, specific treatment should be started. Even when no specific cause can be identified, symptomatic relief may be great. Drugs such as ephedrine, aminophyllin and Isuprel relieve the smooth muscle spasm. Potassium iodide may loosen bronchial secretions so that they can be coughed up more readily.

Smoking is a severe non-specific irritant. Its importance cannot be stressed too much. All patients with chronic dyspnea or cough should stop smoking for a diagnostic period at least. Many of them will get surprising relief.

Chronic lung failure does not exclude heart failure. Chronic lung disease is frequently complicated by *cor pulmonale* and right ventricular failure. In old

people, arteriosclerotic and hypertensive heart disease may also be present. Whatever the cause of the heart failure, it should be treated by the use of digitalis, diuretics, salt restriction and other conventional methods. The treatment of the heart failure secondary to *cor pulmonale* is often disappointing but is certainly not hopeless[6].

Whatever the cause of lung failure, physical activity which causes dyspnea should be prohibited or minimized. Contact with irritating dusts and fumes and with silica should be avoided. Breathing exercises and abdominal binders are often recommended. We have found them disappointing.

Other more drastic forms of treatment are needed for the occasional severely ill patient. These include the administration of oxygen, venesection, aspiration of bronchial secretions by catheter or bronchoscope, decompression of a tension pneumothorax, and decompression of large cysts by a catheter and suction. Cysts that have an epithelial lining should be excised.[7]. We have tried pneumoperitoneum in a number of emphysematous patients. None of them thought it helpful enough to keep it up indefinitely. ACTH has been followed by marked improvement in a few acutely ill patients. Cortisone should be as helpful.

Recently Comroe, Bahnson and Coates[8] have called attention to the fact that the administration of oxygen to emphysematous patients may lead to carbon dioxide retention, coma and death. This danger should not be overlooked when administering oxygen to an emphysematous patient.

Patients with chronic lung failure often require more than one form of treatment. For example, it is not uncommon to find pulmonary emphysema, infectious bronchitis and dust asthma in one individual. Such a patient should reduce contact with dust and be treated with dust extracts. He should also use broncho-dilating drugs and the appropriate antibiotics. Control of symptoms is usually temporary. These people have a chronic progressive disease. They require prolonged treatment.

A great deal can be done in the prophylaxis of chronic disabling lung failure. Treat all acute respiratory infections until they are cured. When possible the duration of the infection should be shortened. Do not withhold indicated antibiotics for fear of producing sensitivity. If sensitivity should develop another drug could be used for subsequent infections. Follow all pneumonias until they are clear by X-ray. Some may require bronchoscopy. Make a strenuous effort to control chronic asthma. Diagnose and treat all chronic coughs. Remember that even after chronic symptoms have developed each acute episode of infection or asthma tends to add to the permanent damage. These acute episodes should be treated promptly and enthusiastically so as to save every possible piece of good lung tissue.

Summary

Chronic lung failure is common. It should be differentiated from heart failure and recognized when it complicates asthma.

Causes of chronic lung failure are: Pulmonary emphysema; pulmonary fibrosis; cystic disease of the lung; bronchial distortions and obstruction; chronic pleurisy; obstruction to the pulmonary circulation.

Careful, prolonged treatment designed to eliminate infection, relieve bronchospasm and control heart failure often leads to considerable improvement.

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Discussion

Dr. Alexander McCausland, Roanoke: I think Dr. Guerrant has given us a very clear presentation, which

should serve to help us formulate a better approach to these diseases. The diseases are well known to us, but the terminology which he has used is relatively infrequently employed. I think it is important that although we speak of heart failure, liver failure, or renal failure, we very rarely hear the term "lung failure". It is important because, as he has stated, the differentiation of these chronic lung diseases from asthma cannot be overemphasized. That is because many of them masquerade as asthma, whereas the wheezing and other symptoms are due to chronic lung failure.

I think it is important also that Dr. Guerrant has pointed out the fact that occasionally we see a young individual with no previous evidence of pulmonary disease or asthma who has rapidly progressing emphysema; and, as best we can learn from the history, it all began with an acute virus infection of the lung.

The identification initially of the bacterial flora and the follow-up are extremely important. Dr. Guerrant has emphasized the need for identifying the bacterial flora before and after antibiotics have been instituted. Where possible, tests of the sensitivity of the bacteria to the different antibiotics should also be carried out in order that the most effective antibiotic agent may be used.

One should have a clear concept of the limitations of what can be accomplished by treatment. These lung changes for the most part are irreversible, and we cannot accomplish cure. That, however, does not justify an attitude of neglecting further treatment. These patients have a very small margin of pulmonary reserve. They operate on a very narrow margin between their maximum respiratory capacity and acute distress; and we should recognize that various conditions such as infections, emotional stress, exertion and allergy may encroach on and further reduce that margin and bring on severe respiratory distress. On the other hand, broncho-dilating drugs may increase this margin of pulmonary reserve. It therefore becomes necessary that we direct our efforts to preserving this margin by treating promptly and adequately infection and allergy and administer broncho-dilating drugs as needed rather than to try hopelessly for cure.

Very often you can discuss this matter very frankly with the patients, just as you do with diabetic patients, explaining to them that they have to live within certain limits. Once this is accomplished management is much easier.

I would like to say a word or two about the CO_2 combining power in these patients. Patients with emphysema frequently have a high CO_2 combining power. Actually what has happened over a long period of time is that they do not excrete CO_2 properly (because of inadequate ventilative function) and since it is an acid in the blood and reacts with sodium to make sodium bicarbonate which is actually what is measured in a CO_2 combining power. The CO_2 accumulation is so slow that the normal $\frac{H2C03}{NAHCO3} \frac{1}{20}$ ratio is not disturbed. The acidosis is compensated. The pH is practically normal. If, however, there is a sudden onset of emphysema or a sudden worsening of it, as with intercurrent pneumonia, etc., the CO_2 accumulates more quickly. Since CO_2 acts as an acid in the blood before it can react with sodium to form sodium bicarbonate the normal $\frac{H2C03}{NAHC03} \frac{1}{20}$ ratio will be disturbed. Thereby the acidosis becomes uncompensated. The pH will be lowered or on the acid side, even though the CO_2 combining power is high and makes one think of alkalosis. It is in these conditions that we need a blood pH determination.

As you know, the chemoreceptors are a highly specialized group of cells located in the carotid and aortic bodies. The reflex response of these chemoreceptors to hypoxia is of importance therapeutically. They are very resistant to minimal changes in pH and oxygen. The chemoreflex is highly resistant to hypoxia. Hypoxia, on the other hand, appears to be insufficient as a stimulus to the respiratory center. As a matter of fact, depression of the respiratory center is the predominating effect of oxygen lack. Quite often these patients carry on their respiratory function solely through this chemoreceptor reflex that is being stimulated by the hypoxia. The chemoreflex retains its viability and continues to exert influence on the respiratory center, which would otherwise be unresponsive to the body's emergency. It has been described as "a more primitive type of respiratory control which acts as a last line of defense against respiratory failure, capable of sampling the pH and oxygen content of the blood and signaling a message to the respiratory center when the tissues are threatened with a dangerous degree of hypoxia".

The patient with advanced emphysema maintains an arterial CO_2 far higher than normal, and since the accumulation of CO_2 is slow, the respiratory center becomes adjusted to this high level of CO_2. When this occurs the CO_2 no longer acts as an adequate stimulus on the respiratory center (CO_2 narcosis), and the respiratory drive arises in the chemoreceptors which are stimulated by the hypoxia (secondary to underventilation).

If we give these patients an over-dose of oxygen, what happens is that we remove the hypoxia which is actually keeping the respiration going, and changes such as delirium or coma and even death may follow the administration of oxygen. Recently a very good article by Dr. Comroe and his associates described this. They describe the various criteria by which one may predict in which patients we may expect these changes. I shall not go into these, but should like to say a word about the management of giving oxygen to these patients.

When we have a patient in distress, seemingly needing oxygen, how are we going to approach the problem? Certainly any approach from our present knowledge has to be empiric. Dr. Barach suggests beginning initially in these patients with a low concentration of oxygen, about 30 per cent. Use a nasal catheter giving about one liter per minute, increasing it every two or three days by one liter per minute until you reach seven liters per minute

and then switch to an oxygen tent. In this way, although the arterial CO_2 concentration may arise, the pH remains normal, and eventually higher elimination of CO_2 with each breath occurs. The arterial CO_2 is then decreased, and respiratory acidosis does not occur; whereas, if you give the patient an abrupt over-dose of oxygen, respiratory acidosis, delirium, and even death may ensue.

In the management of this condition the ventilative function should not be overlooked. The ventilative effort must be adequate to remove the CO_2 because in emphysema the greater increase in the residual air requires greater than normal tidal ventilation to maintain normal adveolar CO_2, and if increased ventilation is not forthcoming CO_2 level rises and CO_2 narcosis occurs. Electrostimulation of the phrenic nerve and artificial respiration may be used to increase ventilation.

Occasionally, we have a situation where we feel we have to give a patient a high concentration of oxygen immediately in order to combat severe degrees of anoxia. If so, it should be supplemented by artificial respiration to stimulate the ventilative function.

A word about CO_2-oxygen mixtures. Most commercial preparations are mixtures. The patient with respiratory failure does not suffer from the lack of CO_2; the CO_2 level is usually so high that given further CO_2 it may act as a dèpressant to the respiratory center.

The administration of drugs which are capable of depressing the respiratory center should be avoided.

The patient should be watched carefully for the first twelve hours after beginning the administration of oxygen. He should have a special nurse, who should be on the lookout for the beginning of the development of coma or any mental changes and anticipate the need for the administration of artificial respiration and have the means at hand for carrying it out should the need occur.

As to the broncho-dilating drugs that may be used, there is some indication that the use of Isuprel and similar preparations may be preferable to adrenalin, since they do not cause as much increase in the pulmonary blood pressure.

As to pneumoperitoneum, I certainly agree with Dr. Guerrant that I have seen no striking relief. Possibly the resting dyspnea is relieved a little bit, but that is an exceedingly hard thing to evaluate.

In closing, I should like to emphasize rehabilitation of these patients. These people have often worked at strenuous labor. Their respiratory function now will not allow them to return to that type of work. They are unemployed and are therefore unhappy, and the resulting emotional strain certainly has an effect in decreasing the small respiratory reserve which they have. So, if they can be trained to do some sedentary work within the limits of their small respiratory reserve, and can become employed, they are certainly happier patients and feel that they are gaining a little bit, and we have to depend on little things to keep them comfortable.

I enjoyed Dr. Guerrant's paper and wish to thank him for the privilege of discussing it.

Dr. John P. Williams, Richmond: I enjoyed Dr. Guerrant's paper and Dr. McCausland's discussion tremendously. Chronic progressive pulmonary failure is one of the most distressing and hopeless conditions with which we have to deal in the practice of medicine and is undoubtedly far more frequently a factor in breathlessness, especially in older people, than we have heretofore recognized, since the custom has been to attribute it all to myocardial degeneration.

Since the changes which cause chronic pulmonary failure are usually irreversible, no treatment yet devised can claim more than symptomatic or at most arrestive value. There are three things which we have come to rely on which we are convinced give these patients much comfort regardless of their effect on survival.

First, the creation and maintenance of an artificial polycythemia, if it is not already present, by the use of transfusions, iron and the therapeutic agents such as vitamin B_{12} which are stimulants to the hemopoetic system, and, finally, a diet rich in the foods which Whipple found most useful in the regeneration of blood. This is based on the common observation that the sthenic type with obesity, hypertension, and the florid face will invariably out-perform the asthenic type in spite of his puffing and blowing, and will almost invariably survive longer. They have compensated for a lowered oxygen tension by increasing the oxygen-carrying capacity and hence the total oxygen available to the tissues just as occurs in normal individuals who go to live at high altitudes.

Secondly, Dr. Guerrant has discussed the use of the antibiotics both as aerosols and parenterally. It is a common observation that decompensation in these patients is usually associated with inter-current respiratory infections. Furthermore, it is generally felt that these infections are responsible for the progression of fibrosis and the accompanying asthmatic bronchitis and cough for further destruction of lung tissue. In the early reports on Terramycin it was stated that it was selectively excreted into the bronchial tree by the bronchial mucosa. We have attempted to confirm this in our laboratory but have as yet been unable to do so because of the high content of tenacious mucus in the bronchial secretions. On the other hand, our clinical observations have convinced us that it is the most efficient of the group and we have toyed with the idea of keeping these patients on 500 mg. daily as prophylaxis just as sulfadiazine and penicillin have been used in an effort to prevent recurrences of rheumatic fever. We intend to continue our laboratory studies, using a liquifacient such as lysozyme, which should not affect the viability of micro-organisms.

Third, and last, there has appeared recently in the *Canadian Medical Journal* a preliminary report on the treatment of a case of pulmonary granulomatosis due to beryllium intoxication with ACTH with brilliant results. It would be entirely unreasonable to expect Cortisone, ACTH or any other drug to cause resolution of dense fibrous tissue already laid down, but we do know that it may be possible in some instances to prevent the formation of fibrous tissue by these agents. It is possible

then that these agents may come to be used in conjunction with antibiotic therapy during acute infectious exacerbations, especially in young people. We have had one such case in whom the vital capacity, total ventilatory capacity and arterial oxygen saturation all increased significantly under such therapy coincident with considerable clinical improvement and return to a more or less sedentary occupation, but a much longer period of observation will be necessary and many more patients must be treated before conclusions are drawn.

DR. RENO PORTER, Richmond: I think this has been a very fine presentation, not only the original paper of Dr. Guerrant's, but the discussions that followed. We are coming to realize that chronic lung disease is quite prevalent. Many of these patients have been considered to have heart disease because of the respiratory distress, which is common to both conditions. Some of them have been treated fruitlessly for heart failure. I have in mind particularly a patient who had respiratory distress and was treated initially with digitalis because he was thought to be in heart failure. There was no particular improvement, and he was put on mercurials at increasing frequency. He still failed to improve as far as his shortness of breath was concerned and, in addition, because seriously ill with sodium depletion syndrome. He was brought into the hospital weak, with lowered blood pressure, and very little urinary output. The administration of saline, particularly hypertonic solutions, brought him out of his salt depletion state. Subsequent treatment of his chronic lung disease brought about improvement in his respiratory distress. This illustrates the importance of differentiation between these two conditions, since treatment of chronic lung disease with cardiac drugs does no good and may actually do harm.

Dr. Guerrant mentioned vital capacity, and, in this connection, I would like to emphasize the fact that vital capacity is not only a measure of volume, but also should be limited as to time. There are many patients with chronic pulmonary disease who can attain a vital capacity of 75 to 90 per cent if they are permitted to blow into the apparatus for as long as they can (5 to 8 seconds). This gives a falsely high value because actually their vital capacity may be only 30 to 50 per cent when they were limited to two seconds, which is time enough for a normal person to attain maximum capacity.

We have been impressed by the benefit which these patients derive from Hydryllin. This drug is a combination of diphenhydramine (a benadryl base) and aminophyllin. We studied this drug several years ago and found that it increased ventilatory capacity without apparent increase in respiratory work. This drug works particularly well in chronic lung disease, allowing the patients to undertake increased activity with less respiratory distress. It appears to be the drug of choice in the long-term treatment of the chronic condition, but not particularly of value in the acute flare-ups that may occur.

I want to thank the speaker for his most interesting paper. I think it is a very timely one for all of us.

DR. GUERRANT, closing the discussion: I should like to thank Dr. McCausland, Dr. Williams, and Dr. Porter for their remarks and to emphasize one or two other things.

Certainly the thing Dr. McCausland brought out is true. We are striving for improvement in these patients. We cannot cure them, but frequently we can do them a lot of good.

When you see a patient with emphysema in an oxygen tent and he begins to go into coma you had better take him out.

I have seen people improve under treatment with Terramycin after failing to improve on other antibiotics. I do not know about its selective secretion by the lungs.

I agree with Dr. Porter that Hydryllin is a very useful drug in these patients.

THE EVALUATION OF THE CARDIAC PATIENT*

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Advanced congestive heart failure is seldom difficult for the attending physician to recognize with certainty. There is usually the familiar picture of dyspnea and orthopnea associated with the congestive phenomena of venous distention, pulmonary rales, hepatomegaly and peripheral edema as well as various cardiac manifestations of dysfunction. For the patient with heart disease to live his maximal span efficiently, however, it is imperative for the physician to be able to recognize the earliest evidences of a weakened myocardium and institute proper therapy before dangerous gross failure occurs.

This recognition is of particular importance to the patient who is about to undergo some operative procedure, for, in spite of the improvements in anesthesiology as well as surgical techniques, the decompensated patient is still an extremely bad risk. Once the failure has been controlled, surgery can be carried out with far less danger. Time often does not allow the internist to follow a course of therapeutic trial or one of prolonged observation, though he would often like to, especially when faced with a patient showing the debilities of advancing years, or perhaps a younger individual with hypertension.

The early stages of failure are easily confused with other conditions which are not at all improved by cardiac medications and, indeed, at times may be made worse by them. For instance, the patient with chronic pulmonary disease may give a history of dyspnea and orthopnea similar in many respects to that found in heart failure, and rales at the lung bases may add to the confusion. In like manner the debilitated and obese patient may complain primarily of dyspnea and palpitation though there may be no weakness of the myocardium.

To establish the presence of heart failure the physician often must employ all of the various modes of investigation. A careful history should, among other things, bring out the duration of dyspnea and edema and the circumstances under which they occur. During the physical examination one should look for cyanosis, venous distention, changes in the lung fields, enlargement of the liver, and the type and location of edema if present. Careful attention should be given to the size of the heart and the character of the sounds as well as murmurs. X-ray and electrocardiographic studies are often necessary components of the investigation.

In general terms heart failure may be defined as that state in which the work required of the heart exceeds its functional capacity. In severe heart disease this capacity or reserve is reduced to a point where ordinary activity cannot be tolerated. Where there is less severe heart disease, acute pulmonary edema may result from unaccustomed and strenuous activity. With the resulting congestive phenomena there is a diminution of renal output and an increase in blood volume. Failure is then perpetuated by this added circulatory load and death may ensue unless the demand on the heart is diminished by instituting rest, diuretics, oxygen, digitalis and other measures to restore a proper ratio between demand and capacity.

When heart failure is present, the most important signs to appear are gallop rhythm, pulsus alternans and venous hypertension. Those signs of lesser importance, such as tachycardia, hyperpnea, pulmonary rales, accentuated pulmonary second sound, hepatomegaly, and edema, though almost always present, are more difficult to evaluate since they occur frequently in the absence of heart disease.

We use the term gallop rhythm to refer to the diastolic occurrence of a third heart sound. This, contrary to a systolic gallop rhythm, is indicative of serious heart disease except in rare instances as prolongation of A-V conduction.[1] Its mechanism is poorly understood, but it is not often heard at rates below 90, and at times with tachycardia there is a summation of an early and a later or presystolic impulse giving rise to a loud third sound.[2] For these reasons, perhaps, there has been a tendency to emphasize the rate of the heart in the pathogenesis of gallop rhythm rather than the inadequacy of the heart for the load placed upon it causing

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that accelerated rate. Nevertheless, if the physician becomes aware of the possible disparity between the load and reserve power of the heart, he will realize that he cannot be content with the absence of a gallop rhythm in a patient suspected of having a weakened myocardium when that patient has been at rest for some time. It is logical to assume that there is an immense difference between the cardiac status of a patient who has just climbed two flights of steps and of the same patient after he has been near basal conditions for an hour or two.

It is important therefore to be aware of these factors in interpreting a gallop rhythm. The physician will frequently be rewarded for his efforts in borderline cases if he listens carefully to the heart after having the patient exercise. In one who is convalescing from a myocardial infarction a gallop may appear after he has undressed and again be inaudible in a matter of minutes. In other cases more strenuous exercise is necessary.

One may be confused by the normal diastolic third heart sound which is so common in healthy children and young adults. It does indeed make the determination of a pathologic gallop rhythm almost impossible in these individuals, but this normal third sound is thought to disappear universally bv the age of 20, probably somewhat sooner. Reduplication of the second sound may also be the source of some concern, especially in the presence of tachycardia where the distinction may be impossible. At slower rates the reduplication or splitting will become obvious.

Of equal significance as a criterion of left ventricular weakness is pulsus alternans which occurs primarily in hypertensive and coronary heart disease. In spite of its importance this is one of the most neglected findings in medicine. It is rarely recorded on hospital charts, though in a series of 201 cases of cardiac decompensation White found it in a third,[3] an incidence equal to that of auricular fibrillation. Contrary to common belief, it is exceptional to detect pulsus alternans at the radial pulse by palpation. Instead it should be sought for with a sphygmomanometer, raising the cuff pressure above the systolic level and slowly lowering it until the first sounds are heard. When alternation is present only every other circulatory impulse is heard initially, the weaker impulse coming through as the pressure is reduced further. Where the difference is small (e.g. 4 mm. Hg.) time must be taken to be sure that the change is not from the normal respiratory variation.

Like gallop rhythm, pulsus alternans is inconstant and may be absent in the face of frank failure. It may be expected to diminish or disappear in the cardiac patient whose condition has been improved under treatment, or in the ambulatory patient who has been at rest. Conversely, in patients with diminished cardiac reserve, pulsus alternans may at times be produced by exercise, or, if the alternation is of minor degree, may be increased to 10 mm. Hg. or more.[4] Though this effect of exercise is quite transient, the value of the procedure is the demonstration of unequivocal evidence of a weakened myocardium.

The pathogenesis of this phenomenon is obscure but is undoubtedly related to incomplete recovery of the muscle fibers after each forceful contraction. It becomes accentuated for several beats following a ventricular extra-systole and is distinguished from bigeminal rhythm by the occurrence of the weaker impulse closer to the preceding strong beat in bigemini, whereas in pulsus alternans the weak beat is slightly closer to the succeeding beat.

The general state of venous pressure in patients with heart disease can be estimated in the office with some degree of accuracy without the use of a manometer. Gross distention of the neck veins with the patient in a sitting position is rarely overlooked. Where lesser degrees of venous hypertension are present, the abnormality can be detected by raising the head and chest from a reclining position to a point where the cervical veins are partially filled and pulsating. The pressure is probably abnormally high if the cervical veins pulsate or become distended when the thorax and head are at 45 degrees from the horizontal. Similarly, with the patient in the sitting position the height of the column of blood in the jugular vein above the third costal margin is noted. Normally, that is, with the pressure below 10 cm. the vein will not be evident. Above 25 cm. the vein is distended up to the ear.

Another important maneuver is the observation of venous pressure change during abdominal compression. Winsor and Burch[5] noted that while compression in *normal supine* subjects produced no change or a fall, in patients with mild congestive failure there was an appreciable rise amounting to average increase of 96 mm. With the patients in a sitting

position the change was less but still quite prominent. Cardiac patients without failure responded in a similar fashion to normals, and those with severe grades of failure with initial hypertension showed a further rise of pressure. It is important to note that in patients with ascites from causes other than heart failure, abdominal compression produced no increased venous pressure.

During exercise of the patient with diminished cardiac reserve there is an abrupt and sustained rise in venous pressure which returns slowly to the resting level after the exercise is completed. In subjects with normal hearts, on the other hand, moderate exercise produces a rise of a few cm. at the onset of exercise followed by a fall coming on after five or ten minutes of continued exertion. The extent of this fall may be such that the venous pressure has returned to its control or resting level while exercise is still in progress. On cessation of exercise the venous pressure drops immediately to the resting level or below.

The importance of the ventricular rate in auricular fibrillation also should be stressed. It is a mistake for the physician to be satisfied with a rate of 90 or less in a patient with this malady who has been confined to bed or who, though ambulatory, has been at rest for some time. Where digitalization is incomplete, light exertion will cause dyspnea and the ventricular rate, which at rest seemed quite normal, will quickly rise to 100 and above. In auricular fibrillation adequate digitalization should hold the ventricular response to 90 or less after light exercise, such as walking ten or fifteen paces, unless there is heart failure or mitral stenosis of a degree which with sinus rhythm would cause tachycardia. In the bed patient the absence of a pulse deficit cannot be relied upon unless the ventricular rate is maintained below 90 after the patient has been made at least to sit up and lie down two or three times.

In summary, we have stressed these objective evidences of heart failure since they are often early in their appearance and may be the only clues which the physician may have with which to establish his diagnosis. If either gallop rhythm or pulsus alternans is found, weakness of the myocardium is present. If they are absent at rest and failure is suspected but cannot be demonstrated conclusively, it is well to exercise the patient in the expectation of producing one or the other of these signs as the load on the heart exceeds its reserve strength. If they do not occur, ventricular weakness can by no means be ruled out. It is the presence of these signs rather than their absence that is important. The patient undergoing surgery can be evaluated much more accurately if observed during exercise than at basal state, and a differentiation between the debilities of heart disease and those of pulmonary disease can be established in a similar fashion. Finally, the physician may obtain some appreciation of the reserve strength of the heart by noting the amount of exercise necessary to produce these signs of a failing ventricle.

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Discussion

Dr. Reno R. Porter, Richmond: I am very happy to have the opportunity of opening the discussion of this very interesting paper by Dr. Williams. We know that the heart has a tremendous reserve capacity and that heart disease may exist without any particular disability. We recognize, therefore, that patients may have heart disease alone or with varying degrees of so-called "heart failure". The outlook for the patient varies, depending upon how much the myocardial reserve has been reduced.

In his paper, Dr. Williams has stressed the points that differentiate a patient who has heart disease and a competent myocardium from one who has a failing myocardium. These phenomena are present when the heart is under stress, namely, gallop rhythm, pulsus alternans, and a rising venous pressure. There are also certain other phenomena which represent the consequences of a retention of salt and water in the body, which now appears to be the result of compensatory mechanisms brought into play by previous episodes of true heart failure (inadequate output). These are the phenomena more generally associated with heart failure but actually representing chronic changes. The points which Dr. Williams has stressed represent acute phenomena and demonstrate latent myocardial failure which may or may not be associated with the chronic congestive failure mentioned. They indicate that the heart, while appearing to be competent, is actually on the borderline of compensation. This is important to know, since the presence or absence of

these findings guides us in our treatment and prognosis.

I think Dr. Williams should be congratulated for bringing these points to our attention. I am particularly pleased that he emphasized the phenomena that occur on exertion because these are the most important signs in detecting early myocardial insufficiency. The patient otherwise may be very comfortable and present no other signs of impending disability.

I wish to thank Dr. Williams for the opportunity of discussing this paper which I consider a very important one.

DR. PAUL D. CAMP, Richmond: I enjoyed Dr. Williams' paper. I think his discussion is particularly important in that he brought out the important physical signs and findings for which we should look in this type of patient in trying to differentiate whether they are actually having failure, or whether it is borderline failure, or whether there is no embarrassment of the circulation present. I certainly agree with him on the findings of gallop rhythm and pulsus alternans. Incidentally, the first time I became interested in heart disease was when I was a fourth-year student working with Dr. Edwin Wood on pulsus altenans.

The prognosis in patients with pulsus alternans, as Dr. Williams indicated, is exceedingly guarded and poor. If I am not correct I should like to be corrected, but I think the general outlook in patients with pulsus alternans is that they will not live over eighteen months to two years at the longest, generally speaking.

I wish to commend, likewise, Dr. Williams' observations on gallop rhythm, particularly the slow rate and the fact that it may often be noted if the patient is made to exercise. For instance, when a patient gets up on the examining table we have noted that gallop rhythm has occurred. I think we should keep that in mind.

In patients with chronic pulmonary disease, for example emphysema, there is one test Dr. Williams indicated which I think is very helpful. If you have these patients in the office and have them do a simple exercise test, if the dyspnea is due to emphysema you will find that the pulse rate will not go up nearly as much as if the dyspnea is due to myocardial damage and failure, and, of course, the rate will return to normal much more quickly.

With regard to operation, of course, we are trying to decide whether these patients are suitable for operation at that time. I think if there is a real emergency we can take more of a chance than we should with elective operations. I believe that in elective operations we should be sure that the patient at least has a good chance of recovery, because oftentimes they can live for many years comfortably or with a little discomfort from the disease for which they are operated upon. The surgeons, of course, are more upset about the murmurs they find than we are; and we are more upset about the other things which we find.

The presence of aortic stenosis, as we all know, is not very favorable for operation or for other things. In fact, these patients are apt to drop out at almost any time.

I should like to mention one other thing in the evaluation of the cardiac patient which Dr. Williams did not cover because of the nature of his paper and because of the time. That is coronary insufficiency without any evidence of actual myocardial failure, or, I should probably say, evidence of congestive failure. I think it is important to inquire very carefully and take a very careful history in these patients to try to determine whether they do have coronary insufficiency, as indicated by the syndrome of angina pectoris or past history of coronary thrombosis or occlusion. I personally do not always find the determination of angina pectoris such an easy thing to make. I may just not know how to do it, but that is a fact. I think the most important thing is to inquire very carefully in regard to any discomfort—not necessarily pain but any discomfort—in the chest radiating to the arms or neck, which is brought on by exertion or excitement, and coming on under the same circumstances time and time again. I think that generally means angina pectoris, although of course it does not always mean that.

Again, I should like to congratulate Dr. Williams on his paper and for bringing to our attention the very important physical signs which he brought up.

DR. WILLIAMS, closing the discussion: I should like to thank the gentlemen who discussed the paper.

In regard to the prognosis of pulsus alternans, it has, generally speaking, a bad outlook. However, I would emphasize again that it is the circumstances under which the pulsus alternans occurs that are probably most important. If we have a patient who has been at rest and shows a severe degree of pulsus alternans, ten, fifteen or twenty mm. of mercury, his prognosis is much worse than that of the patient who would show pulsus alternans only after strenuous exercise.

EVALUATION OF CERTAIN NEW THERAPEUTIC MEASURES IN THE MANAGEMENT OF RHEUMATOID ARTHRITIS*

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The research of Hench, Kendall and others on certain hormones from the hypophysis (ACTH) and adrenal cortex (Cortisone) and their effect on rheumatoid arthritis has prompted research into other related compounds in the hope that they could produce similar effects.

Lewin and Wassen,[1] in the November, 1949, *Lancet,* reported on their work in using combined injections of desoxycorticosterone acetate and ascorbic acid on rheumatoid arthritis. Their series comprised 9 patients (6 women and 3 men) with mild to severe rheumatic disease of the joints of two weeks to fifteen years' duration. The method described was to use intramuscular injections of 5 mg. of desoxycorticosterone acetate in oil immediately followed by an intravenous injection of 1 gm. ascorbic acid. They reported that within five minutes after the injection, the articular pain began to diminish and articular mobility began to increase. Fifteen to thirty minutes later pain practically disappeared and the mobility improved as much as the anatomical changes in the joints or muscular atrophy would allow. The report indicated that all the patients reacted in a similar way. This effect lasted from two to six hours and occasionally more than twenty-four hours. They also reported that in one or more acute cases, one or two injections have been enough to banish the pain for two or three weeks. Shortly after this, LeVay and Loxton[2] treated 80 cases of rheumatoid arthritis in the same manner and reproduced the same results reported by Lewin and Wassen[1]. There have been several reports by other investigators of a similar favorable response.

Curre and Will[3], however, in their investigation were not convinced that desoxycorticosterone acetate and vitamin C were of any value in the treatment of rheumatoid arthritis. Others have agreed with these later workers. An editorial in the May 27, 1950, *Lancet* stated that no substance except Cortisone and ACTH can be held to have contributed to the endocrine treatment of rheumatism. In their opinion it was difficult to see how the intramuscular injections of a very small quantity of hormone in oily solution could be responsible for any substantial changes in rheumatoid arthritis within a few minutes. Cortisone and ACTH can remove symptoms but the improvement seems to take much longer than the five to fifteen minutes claimed for desoxycorticosterone. Moreover, the quantities of Cortisone needed are much greater than the quantities of desoxycorticosterone which have been used. Even if some theoretical mechanism could be devised for the conversion of desoxycortone into Cortisone, it is not clear why 5 mg. of the former should have an effect comparable to more than 100 mg. of the latter. Desoxycortone and ascorbic acid therapy came in for further condemnation from E. C. Kendall and Philip Hench at the National Academy of Sciences in 1950. They stated at this time that a number of other compounds related to Cortisone were without effect.

In rheumatoid arthritis, spontaneous remissions are common. These are usually subjective and are of very variable duration, lasting from a few hours to several months or years. Most patients say they have good days and bad days, associated with changes in the weather. Also, the results of treatment with any specific drug are influenced by the personality of the patient, and the patient's performance is limited not only by the damage to and the pain in affected joints, but also by his or her willingness to move the joints. Thus the power of sug-

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Sponsored by the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are a result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

gestion on any patient has to be taken into consideration in giving any drug.

EFFECTS OF DESOXYCORTICOSTERONE ACETATE WITH ASCORBIC ACID IN RHEUMATOID ARTHRITIS.

In our study ten patients with rheumatoid arthritis were treated daily by the intramuscular injection of 5 mg. desoxycorticosterone acetate followed immediately by the intravenous injection of 1,000 mg. ascorbic acid, for a period of at least two weeks. All the patients were suffering from active disease and had been under observation for periods of months to years. The disability ranged from Stage II to Stage IV, Class II to Class IV as defined by the Committee on Therapeutic Criteria of the American Rheumatism Association.

RESULTS

1. *Clinical.*—Four of the ten patients reported transient relief of pain and increased mobility of joints lasting from a few minutes to a few hours following the first injection. Two stated that they felt worse after the first injection and the remaining four stated that there was no change. The injections were carried out on all of the patients for 14 days. In the four patients reporting relief on the initial injection, we were unable to duplicate this result by later daily administration. In the remaining six patients, further daily injection also failed to give improvement. At no time in any patient were we able to demonstrate any objective improvement in swelling or mobility.

2. *Laboratory:*

Sedimentation Rate.—Daily sedimentation rates (Westergren) were done in the majority of the cases and three times weekly in others. No significant drop in sedimentation rate was observed in any of the patients.

Eosinophil Counts.—Eosinophil counts were carried out daily on four of the patients. There was no drop in total circulating eosinophils and no rise following cessation of therapy.

EFFECTS OF DELTA 5 PREGNENOLONE IN RHEUMATOID ARTHRITIS

Pregnenolone (Delta 5-pregnen-3 beta-01-20-one, melting point 190 C) was first obtained synthetically from stigmasterol by oxidation of the C 20 side chain[4] and subsequently from cholesterol by the same method[5]. It has been isolated in small amounts from hog testes[6], but its isolation from human sources has not been reported.

Its relation to the physiologically important steroids in chemical structure and in pharmacologic properties has given rise to speculations about its possible role in the human organism as an intermediate substance in the synthesis and metabolism of these steroids[7].

While chemically it can be regarded as a direct oxidation product of cholesterol, it can in turn be transformed to dehydroisoandrosterone by oxidation at C 17, to progesterone by oxidation at C 3 and to desoxycorticosterone by oxidation at both C 3 and C 21[8].

The resting adrenal cortex is rich in cholesterol esters which are depleted when the experimental animal is subjected to stress or when the adrenal cortex is stimulated by injection of adrenocorticotropic hormone. There is therefore good evidence that cholesterol is utilized in the synthesis of the steroid hormones, and the pathway of this synthesis may well be through pregnenolone.

Pharmacologically it displays to some extent all the hormonal activities common to the naturally occurring steroids, as shown in animal experiments. It was used extensively by Hoagland[9] and by Pin-

TABLE I
RESULTS OF TREATMENT OF RHEUMATOID ARTHRITIS WITH DESOXYCORTICOSTERONE ACETATE WITH ASCORBIC ACID

Number of Cases	Stage	Class	Duration of Treatment	Initial Clinical Results	Final Clinical Results (2 weeks)	Sed. Rate	Eosinophil Count
4	II	II	2 weeks	Good	No change	No change	
4	III	III	2 weeks	No change	No change	No change	No change
2	IV	IV	2 weeks	Worse	No change	No change	

cus[10] to reduce increased ketosteroid excretion which occurs as the result of stress in aviators. Simultaneously with the reduction of the ketosteroid excretion, the psychomotor performance improved. Hoagland postulated that its administration creates an optimum steroid balance, though the mechanism of conversion is obscure. While these observations were made on essentially healthy persons, pregnenolone will also reduce the excessive ketosteroid excretion of pathologic origin which occurs in virilism in women[11].

It appears to be free from toxic effects in man when administered in relatively large doses. Carbohydrate and electrolyte metabolism is unaltered even with prolonged administration, and no effect on renal clearances was observed by Abels and his associates[12].

In our study ten patients with active rheumatoid arthritis were treated daily with injection of 300 mg. pregnenolone. All the patients were suffering from active disease and their disability ranged from Stage II to Stage IV, Class II to Class IV as defined by the American Rheumatism Association.

Here, again, a careful attempt was made to assess pain, stiffness, swelling, tenderness, range of motion, etc., before, during and following treatment.

Results

1. *Clinical.*—One patient was treated daily for 23 days without any objective or subjective improvement; one was treated for 28 days with the same negative results; five were treated for 30 days with no results; two were treated for 36 days with no improvement. One patient claimed subjective improvement during early treatment and was kept on therapy for 60 days. However, during the latter part of treatment even subjective improvement was denied and treatment was discontinued after 60 days.

2. *Laboratory:*

Sedimentation Rate.—Sedimentation rate (Westergren) was done bi-weekly. No significant changes were noted.

Eosinophil Counts.—Eosinophil response counts were carried out before treatment and approximately two weeks after treatment. There was no significant change.

Effects of Cortisone in Rheumatoid Arthritis

In contrast to our completely negative results with these two drugs, we would like to report briefly on our results in the treatment of our first ten cases of rheumatoid arthritis with Cortisone.

After preliminary studies, treatment with Cortisone followed a fairly set pattern modified slightly to meet varying clinical situations and the variable responses of the individuals. During the first twenty-four hours 300 mg. of Cortisone was given in a dosage schedule of 100 mg. every eight hours. During the second twenty-four hours and occasionally extending over a period of from twenty-four to seventy-two hours, 200 mg. a day in a dosage schedule of 100 mg. every twelve hours. For the next seven days the dose was fixed at 100 mg. a day given in a single dose. Following this, the dose was reduced by 25 mg. stages, usually every second to third day, first to 75 then to 50 and occasionally to 25 mg. daily. At the time of discharge from the hospital, the patient's maintenance dose was usually set at from 25 to 75 mg. per day[13].

Evaluation of Results

Excellent.—Two cases were considered to have had excellent results. They were completely relieved of resting pain, and joint and muscle stiffness. Joint

Table II

Results of Treatment of Rheumatoid Arthritis with Delta 5 Pregnenolone

Number of Cases	Stage	Class	Duration of Treatment	Initial Clinical Results	Final Clinical Results	Sed. Rate	Eosinophil Count
1	III	III	23 days	No change	No change	No change	No change
1	III	III	28 days	No change	No change	No change	No change
5	II	II	30 days	No change	No change	No change	No change
2	III	III	36 days	No change	No change	No change	No change
1	IV	IV	60 days	Good	No change	No change	No change

swelling and deformities were completely controlled and the patients developed motion pain only after extreme exertion. The maintenance dose of Cortisone in one patient was 25 mg. per day and in the other 25 to 50 mg. per day with intervals as long as three weeks without treatment or return of symptoms. Both of these cases had had the disease less than two years. (Fig. 1)

however, was present on moderate exertion, and they still showed residual joint swelling and moderate joint deformities. The maintenance dose of Cortisone varied between 50 and 75 mg. per day, although one patient in the group had a remission for two weeks after discontinuing therapy. The duration of the disease in this group extended from two to ten years. (Fig 2)

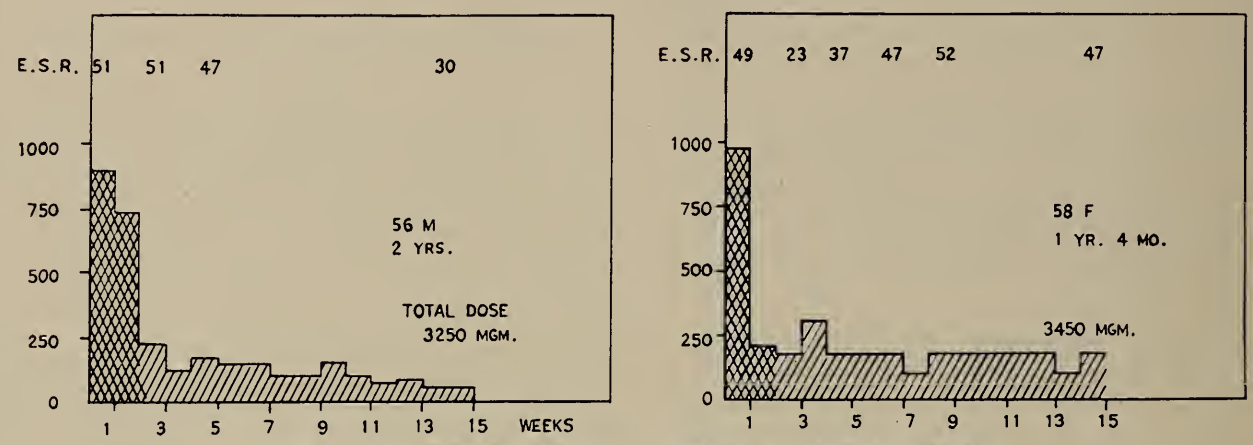
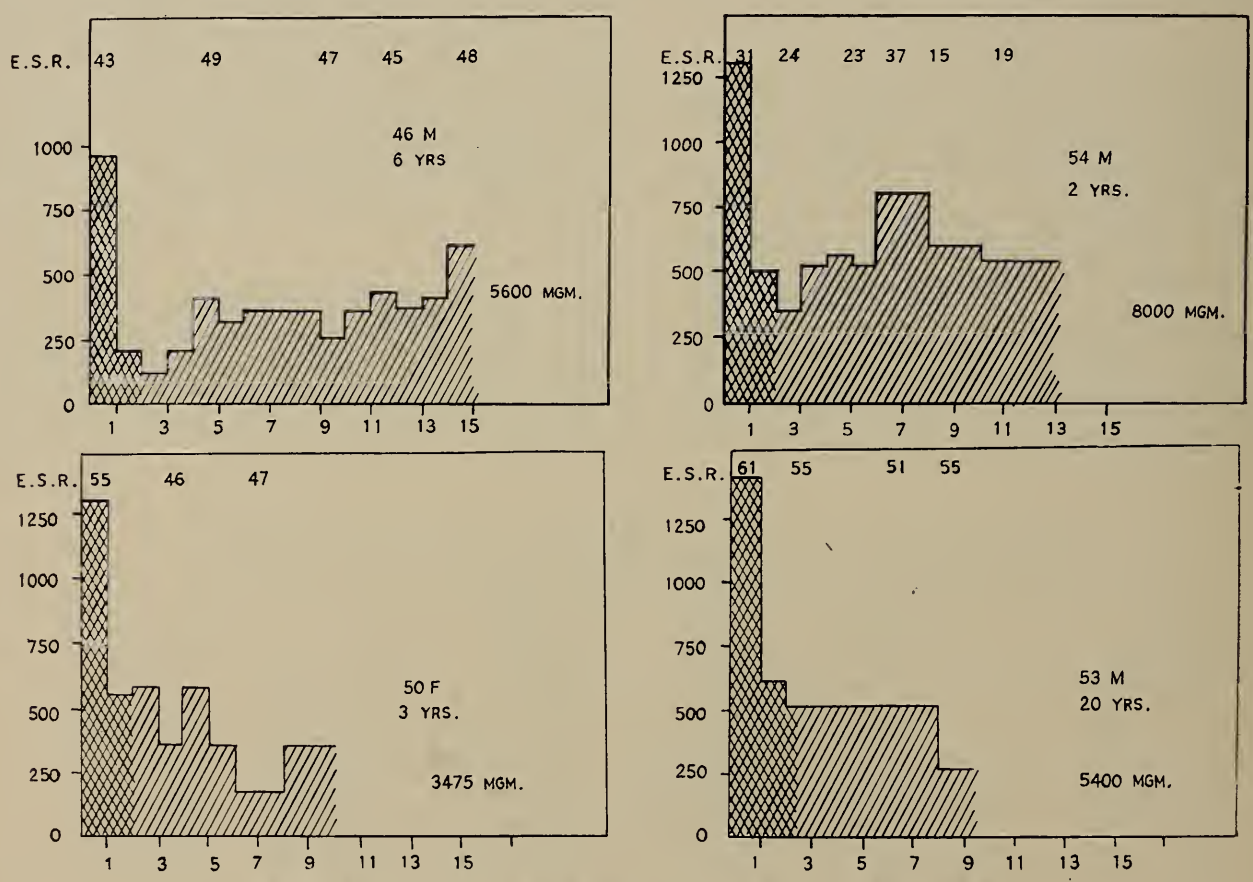


Fig. 1. Two patients treated with Cortisone with excellent results.

Good.—Four patients were considered to have had good results. In these patients resting pain was completely relieved and there had been a marked improvement in muscle and joint stiffness. Motion pain,

Fair.—Two cases were considered to have had only fair results. In these two cases resting pain was under good control, but they experienced only moderate relief of muscle and joint stiffness, motion pain



Figs. 2A and 2B. Four patients treated with Cortisone with good results.

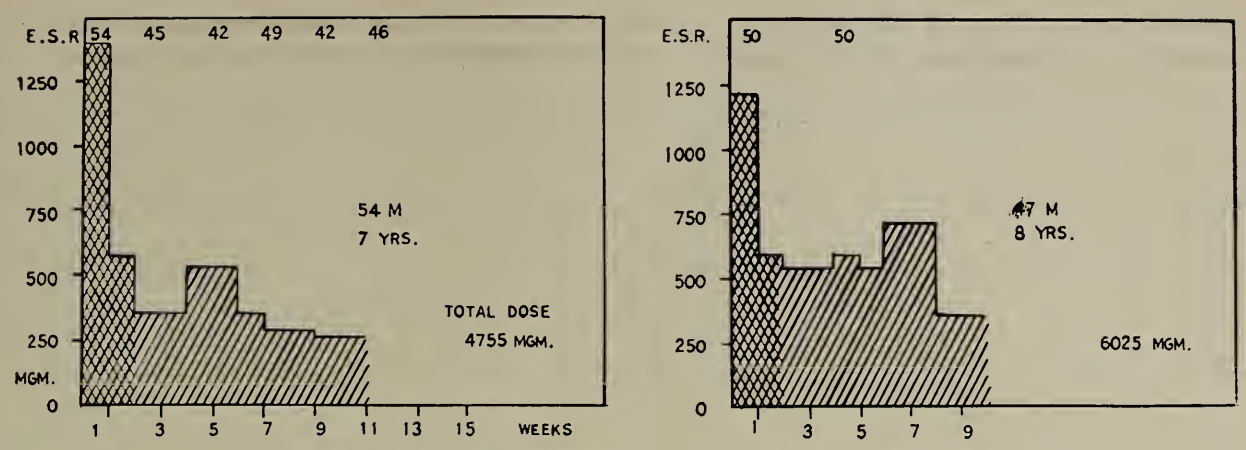


Fig. 3. Two patients treated with Cortisone with fair results.

returned after slight activity, and the patients' actions were markedly restricted due to persisting severe deformities. The disease in each had existed from five to twelve years. The maintenance dose of Cortisone varied between 50 and 100 mg. per day. (Fig. 3)

Poor.—The results in two cases were considered poor and in both treatment with Cortisone had to be discontinued. In one of these cases a persistent leukopenia and granulocytopenia developed, and all the signs and symptoms of the disease recurred after the drug had been discontinued. In the second case very large doses of Cortisone, in excess of 100 mg. per day, were necessary to keep even resting pain under control, the patient developed an abscess at the site of injection, and in addition became very apprehensive and anxious about the development of toxic side effects. She also showed a marked accentuation of her arthritic complaints after injections of Cortisone when the dose was below the adequate maintenance level. The disease in both of these patients had existed from ten to twenty years and both showed severe deformities as a result of the disease. (Fig. 4)

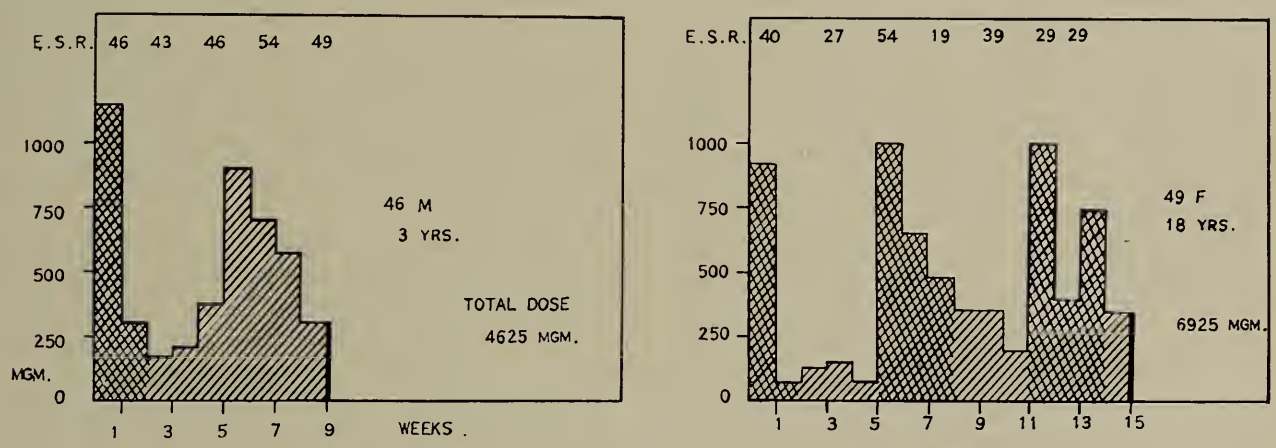


Fig. 4. Two patients treated with Cortisone with poor results.

Summary

In summary, we do not believe that either the use of desoxycorticosterone acetate with ascorbic acid or the use of pregnenolone has any beneficial effect in the treatment of rheumatoid arthritis. In contrast, Cortisone often shows dramatic beneficial effects and these effects are maintained in many cases kept on maintenance doses in our series of cases.

The brand of desoxycorticosterone used in this investigation was Percorten first and later Percorten-Sodium ascorbate emulsion very kindly furnished us by the Ciba Pharmaceutical Products, Inc.

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DISCUSSION

DR. JOHN P. WILLIAMS, Richmond: When we started this work with DOCA and Pregnenolone, Cortisone was not available to us and the frantic search was on for some physiologically active, more easily available and less costly therapeutic agent among the other steroid compounds. The early reports on both of these drugs had been encouraging to say the least and we were very anxious to confirm these results and to help these hopeless sufferers. There is no use in wasting time by discussing the details of this study since Dr. Wingfield has covered it so clearly and thoroughly; suffice it to say that we could not convince ourselves that we caused significant improvement in a single case of rheumatoid arthritis.

There is one case which should be mentioned which was not included in this report because he did not have rheumatoid arthritis. He was a middle-aged negro with sarcoidosis accompanied by multiple lesions of the bones with extreme deformity of both hands resembling those seen in the textbook illustrations of leprosy. During the uneventful course of his hospitalization, he became acutely ill with a red throat, temperature of 102°, and very severe arthritic symptoms involving many joints but especially the badly damaged hands. He was started on penicillin first with little immediate improvement. Two days later DOCA and ascorbic acid were added to the therapy and improvement followed immediately with disappearance of fever and acute arthritic symptoms in 48 hours. You may take this observation for what it is worth, always remembering that *"post hoc, ergo propter hoc"* is one of the most notorious of logical fallacies.

One of the phases of this situation which has always fascinated me is the fact that our literature will so frequently and almost simultaneously report diametrically opposed observations. In this instance, how is it possible for a group of observers just as honest as ourselves to obtain improvement in a high percentage of cases when we fail utterly? Or to carry this inquiry a little further, how is it possible for an intelligent and experienced observer to accept improvement which occurs within 5 minutes of administration of any agent, save on a functional rather than an organic basis? The answer will have to deal both with the patient and the observer. The former has been covered recently by Dr. Harold Wolff, Dr. Stewart Wolf, *et al.*, in the *American Journal of Clinical Investigation* under the title, "The Pharmacology of Placebos", in which they show that inert substances plus suggestion will in many instances call forth a greater physiological response than physiologically active substances without suggestion. The rest of this question could probably be answered if these gentlemen would report a study on "The Psychology of the Ardently Wishful Observer".

Dr. Wingfield has also reported our results with Cortisone since it has become available, for contrast with the lack of results with the other agents. I do not believe that we have stressed sufficiently the undesirable side-effects of this therapy. We have noted the development of the "moon-face", acne and transient dependent edema even when electrolyte values were normal, but these have been easily controlled and no deterrent to continuation of therapy when indicated. We have not seen significant hypertension or any diabetic tendency. In our series we have noted two psychotic reactions which were sufficiently severe to require locked ward care. Both of these recovered completely. One other patient, nearly blind from sarcoidosis with bilateral uveitis, became first euphoric, then agitated and confused and left the hospital against medical advice since he was not thought to be sufficiently disturbed for commitment. He also recovered completely and returned later, no improvement in vision having resulted. All of these patients were being treated for conditions other than rheumatoid arthritis and are not included here.

One of the most distressing if not the most dangerous of the side-effects of Cortisone therapy is the marked exaggeration of despondency and hopelessness which supervenes with the rapid relapses following cessation of therapy. Patients who have established equanimity in spite of the burden of pain and incapacity which they bear, see their hopes and aspirations soar to unprecedented heights with the exhibition of the "miracle drug" and abetted by the customary euphoria, to be dashed precipitately when they return to a condition which may actually be or merely seem to be worse than before therapy. We are becoming more and more forcibly impressed with the necessity for using sound judgment in selection of cases for treatment.

DR. OSCAR SWINEFORD, Charlottesville: We have tried DOCA and ascorbic acid with essentially the same results as reported. We have noticed very striking subjective improvement that lasted for a matter of an hour or two in a few patients, but we have never found any lasting improvement, nor have we been able to repeat the transient result first obtained.

We, too, have had difficulty with ACTH and Cortisone, with acute mania once, development of hypertension and acute failure once, and troublesome depression in an-

other instance. In several instances a mild diabetic tendency has been accentuated. We have had pigmentation of the skin in the form of freckling, moon face, transient edema in several instances. None of the consequences of ACTH and Cortisone administration persisted more than a few days after the drugs were stopped. In other words, our experience has been essentially the same as reported here.

Dr. T. Dewey Davis, Richmond: I have used Pregnenolone in a small series of arthritis of various types both parenterally and orally and have not seen a single patient derive any benefit from its use, nor have I seen any harmful effect.

As regards ACTH and Cortisone in rheumatoid arthritis, we have used these drugs in a number of long-standing cases with crippling deformity and intolerable pain. They have invariably shown improvement with disappearance or alleviation of the pain and their ability to use their extremities has been improved within the limitations of their permanent joint destruction. Our major problem has been the maintenance dose. Because of the expense we have attempted to keep it as low as possible; but in doing this we are very apt to give too small a dose. It is quite distressing to have one of these individuals relapse from their improvement and have their hopes dampened.

Up to the present time we have not seen any mental disturbances from either Cortisone or ACTH; but from reports in the literature I am quite sure that we will run into this problem in the near future. Fortunately, the complications of these drugs usually disappear fairly completely when they are withdrawn.

Dr. William H. Higgins, Sr., Richmond: Although the beneficial effects of Cortone are confined largely to the early or moderately advanced cases of rheumatoid arthritis, occasionally we do see miraculous results from this hormone in the totally disabled individuals. I would like to report a notable improvement in a man of sixty who was a victim of a deforming arthritis for forty years. He had marked ankylosis of his hands, feet and knees and it was with considerable difficulty that he could walk across his room with the aid of crutches. Naturally he could not shave himself and he was largely dependent on his family for assistance.

By the fourth day of treatment he was walking without crutches and without assistance and there was unfolded to him a new world. He can now feed and shave himself and although his movements are slow and awkward he now has a different outlook on life.

Witnessing this amazing change in an arthritic of long standing it is one of the greatest miracles within my knowledge.

Cortone is not a cure but it does bring relief to many unfortunate victims in a manner never believed possible.

New Books.

We give below some of the newer books received at the Tompkins-McCaw Library of the Medical College of Virginia, Richmond, which may be had under usual library rules by writing the Library:

Allen—The kidney, medical and surgical diseases.
A.M.A.—Handbook of nutrition. A symposium. 2nd ed.
Bowes and Church—Food values and portions commonly used. 7th ed.
Bray—Clinical laboratory methods. 4th ed.
DeSanctis and Varga—Handbook of pediatric medical emergencies.
Fleming—Penicillin. 2nd ed.
Hypertension, a symposium.
Kagan, ed.—Studies in pediatrics and medical history.
Lever—Histopathology of the skin.
Martin and Johnson—Practical microscopy. 2nd ed.
McEwen—Bacteriological technique.
Menkine—Newer concepts of inflammation.
Mommaerts—Muscles.
Perry—Scientific Russian.
Pickles—Haemolytic disease of the newborn.
Proceedings of the 2nd clinical ACTH conference. Vol. II. Therapeutics. 1951.
Proudfitt and Robinson—Nutrition in diet therapy. 10th ed.
Reese—Tumors of the eye.
Riese—Principles of neurology in the light of history and their present use.
Reynolds—Physiology of the uterus. 2nd ed.
Symposium on steroids in experimental and clinical practice.

UROLOGICAL PROBLEMS IN INFANTS AND CHILDREN*

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C. W. BEAVEN, M.D.,
and
A. A. CREECY, M.D.,
Newport News, Virginia.

We would like to discuss for you today urological problems found in infants and children. Pathology of the urinary tract in young children, if thought of and properly investigated, will explain a lot of symptoms presented for proper diagnosis. Both congenital and acquired types are found. In presenting this subject it was decided to classify the conditions frequently encountered as follows:

1. Pathology in the urinary tract which accounts for masses in the abdomen.
2. Pathology in the urinary tract which accounts for recurrent attacks of abdominal pain.
3. Pathology in the urinary tract which can explain a fever of long duration.
4. Pathology in the urinary tract which can explain repeated attacks of pyuria with high fever, commonly known as pyelitis.

An investigation of the urinary tract in infants and children should include an adequate history especially pertaining to the urinary tract. It should include a complete physical examination, complete blood count and urinalysis, a tuberculin test, blood chemistries such as urea or NPN and creatinine as well as a urine culture, an intravenous pyelogram, also a cystoscopic examination and a retrograde pyelogram. Of these procedures examination of the urine, urine cultures and pyelogram are most important. Pus in the urine is a good indication of urinary pathology, but absence of pus in the urine does not always rule this out. The type of organism found in the urine is always of significance. For instance, if the urine culture shows the presence of the streptococcus or staphylococcus organism, the infection of the urinary tract is most likely secondary to infections elsewhere in the body, such as tonsillitis, boils, etc. If the urine culture shows a gram negative organism, most likely it would be the colon bacillus and the basic pathology would be found in the urinary tract and this pathology may be an obstructive or congenital lesion. If the history presents symptoms referable to the urinary tract and the colon bacillus is found in the urine, an intravenous pyelogram is indicated. It is best first to do intravenous pyelograms in infants and children because it is a more simple procedure. This procedure can be done in the office. It is not necessary to give an anesthetic and, of course, not necessary to admit the patient to a hospital. As a rule the intravenous pyelogram will give adequate information as to the type of pathology in the urinary tract. At times it will give suggestive findings and these findings should be further investigated with a cystoscopic examination and retrograde pyelogram. If the intravenous pyelogram is negative, most likely there is no pathology in the urinary tract. In doing intravenous pyelograms in infants and children, a large amount of diodrast is given intravenously, a larger amount than recommended by the manufacturer of this product. A test for sensitivity should be done before injection of the dye. The patients, except infants, are instructed to go without liquids and food for at least twelve hours before the procedure and the mother is instructed to give an enema early on the morning the patient is investigated.

The following cases will demonstrate conditions representing the four groups previously mentioned:

The first one is that of a mass in the left abdomen. This patient was a two weeks old male. The mass was about the size of an orange. Urinalyses were repeatedly negative. Urine cultures were negative. A barium enema revealed a normal large bowel. An intravenous pyelogram was not of great help, but showed some dye in the region of the left kidney. The kidney was not well outlined. Cystoscopic examination and retrograde pyelogram were not successful. An exploratory operation was done and a multilocular cyst of the left kidney was removed. The right kidney appeared normal. Since the removal of the kidney the baby has done well.

*Read before the Seaboard Medical Association, at Fort Monroe, Va., December, 1949.

From Hogg-Beaven Pediatric Clinic and Buxton Hospital, Newport News, Va.

In the second case, that of a newborn baby girl, the mass was first felt when the patient was about five days old. The mass was in the left abdomen. Urinalysis and urine cultures were negative. A barium enema ruled out any lesions of the large bowel. An intravenous pyelogram was not successful since the kidneys were not visualized due to a large amount of gas in the small and large bowel. A retrograde pyelogram was not successful due to an obstruction in the left ureter which prevented the injection of skiodan into the left kidney pelvis. A few days after this procedure an exploratory operation was done and a miltilocular cyst of the left kidney was removed. The progress of this child has been satisfactory since then. Intravenous pyelograms in newborns do not give us the proper information because of the large amount of gas present in the small and large bowel and also because of rapid excretion of the dye by the kidneys.

Fig. 1. Retrograde pyelogram.

The third case in this group is a boy twenty-two months old. When first seen he presented a mass in the left abdomen. Other than that he appeared well. Urinalysis was negative. Our impression before further study was that he had a Wilms tumor. A retrograde pyelogram was done and, as shown here (Fig 1), the radiograph revealed an abnormally placed kidney with large distorted left kidney pelvis. This mass was removed and later identified as a Wilms tumor. The boy is now thirteen years old. About eleven years have elapsed since the removal of his kidney. This is a rare instance in which a Wilms tumor has been removed and the patient has lived over five to seven years after removal. Each year we have taken x-rays of his chest and as far as we can determine there has been no metastasis. We believe that the chances for this boy's life are good. Ladd and Gross of Boston who have reported a large series of Wilms tumors advocate early removal of the tumor without preoperative irradiation, but they do advocate irradiation after the mass has been removed.

The following three cases will illustrate the second group, that is, recurrent abdominal pain:

The first case is that of a boy nine years old who presented recurrent attacks of vague abdominal pain. He was referred to us for study after the removal of his appendix which did not relieve his symptoms. When seen the general examination was negative. A urinalysis was negative and a blood count was normal except for an increase in eosinophiles to 12%. The examination of stool for ova and parasites was negative. A urine culture was negative. During early infancy this child had eczema. It was thought that his symptoms could be due to gastro-intestinal allergy. It was approached as such without results. Next, an intravenous pyelogram was done and this is what was found (Fig. 2): A hydronephrosis of the left kidney pelvis with definite constriction of the ureter about three centimeters from the pelvis. A retrograde pyelogram showed the same condition. He was cystoscoped with dilation of the ureter and a few weeks after the cystoscopic the pain subsided and he has been well since.

The second case is that of a boy thirteen years old who had been having recurrent abdominal pain for five years. A general examination was negative. A blood count was negative. A urinalysis was negative except for an occasional small clump of pus.

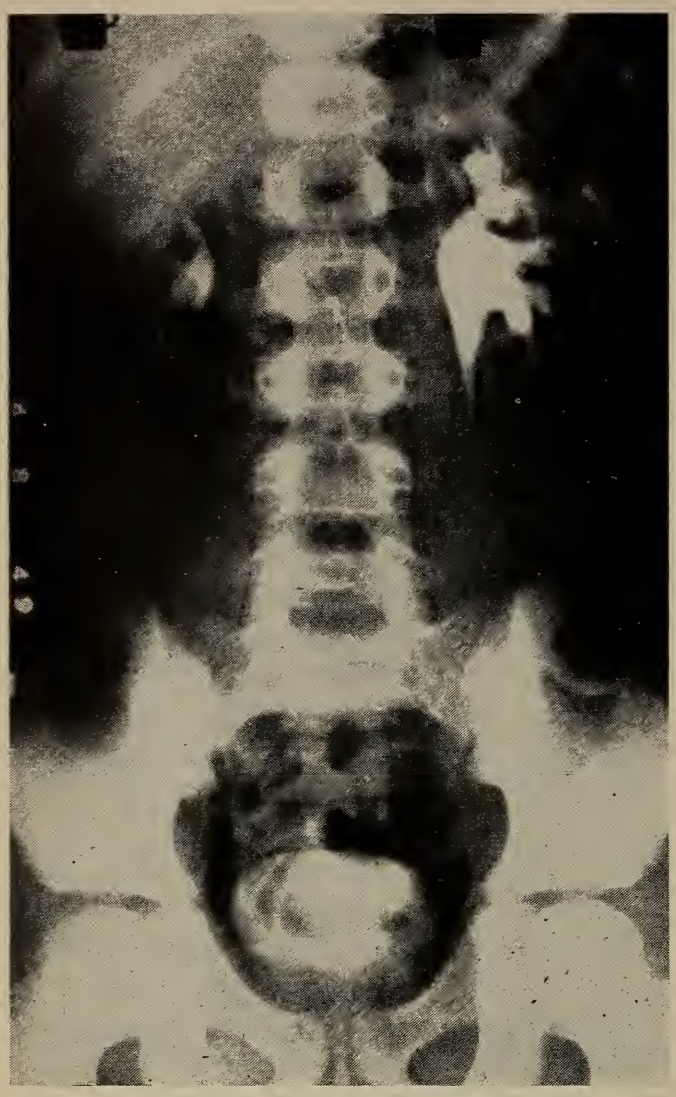

Fig. 2. Intravenous pyelogram.

The urine culture was negative. An intravenous pyelogram (Fig. 3) revealed a large tortuous left ureter at the junction with the bladder. A cystoscopic examination and a retrograde pyelogram revealed caliectasis and pyelectasis of the left kidney and a stricture of the left ureter at the junction of the ureter with the bladder. Dilation of this stricture was done with some relief to the patient.

The third case in this group is that of a boy six years of age who complained of vague pain in the left side of his abdomen. This patient was observed over a period of a year. Our studies such as complete blood counts, urinalysis, examination of his stool for ova and parasites were negative. He was markedly constipated, having very hard dry stools. The pains in his left abdomen became worse. On one occasion he was definitely tender over his left kidney. An intravenous pyelogram was done which showed hydronephrosis of the left kidney. He was further studied with a retrograde pyelogram which showed a left hydronephrosis with obstruction at the uretero-pelvic junction. The hydronephrosis was thought to be congenital in type and the obstruction due to an aberrant vessel. On operation no aberrant vessels were present but a congenital fibrous band was found in the upper left ureter. This band was released and the opening enlarged. Six months after operation another retrograde pyelogram was

Fig. 3. Intravenous pyelogram.

done and the left kidney pelvis appeared to be much smaller and the constriction of the upper ureter had been lessened. The patient has not complained of any more abdominal pain since the operation.

The following case will illustrate a condition in the urinary tract which explains a fever of long duration. This patient is a ten year old girl who was seen by us about six months ago and who presented a history of having unexplained fever for the past two years. The fever would occur every one to two

months and last for a few days. Before seeing her she had had a complete study including an allergic investigation but not a culture of her urine because urine specimens did not show the presence of pus. When we studied her our investigation was negative except for the presence of a gram negative bacillus in her urine. The urine did not show pus at anytime. A urine culture was repeated and the same organism was found. It was classified as a colon bacillus. With this in mind a study of the urinary tract was done and an intravenous pyelogram (Fig. 4) showed suggestive clubbing of the calyces of the right kidney and also suggestive enlargement of the right kidney pelvis. A cystoscopic examination and retrograde pyelogram revealed subacute infection of the trigone of the bladder, a right calicectasis and a right hydronephrosis. This patient was given chloromycetin followed by a course of mandelic acid. After that therapy was given she did not have return of her spells of fever.

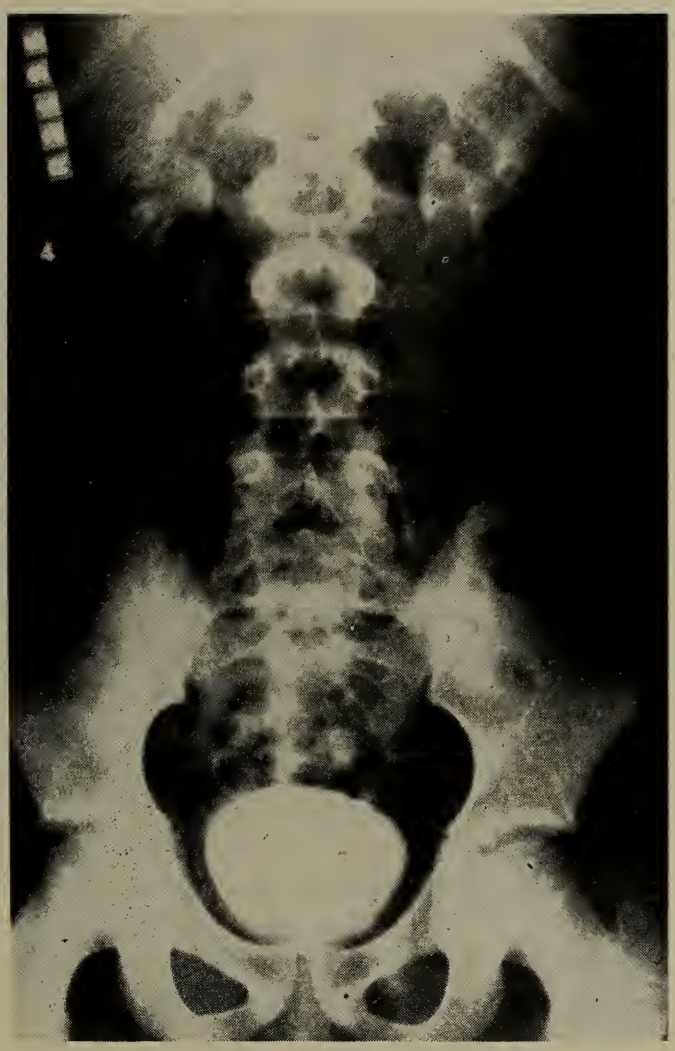

Fig. 4. Intravenous pyelogram.

This patient illustrates the fourth type, that is, repeated spells of pyuria with high fever. The patient was five years old when first seen. She gave a history of having repeated spells of pyuria with high fever since the age of three years. The urine was loaded with pus and a urine culture showed the presence of a gram negative bacillus which was classified as the colon bacillus. Otherwise this child was normal. Her tonsils were removed several months previously with the hope of preventing the recurrent attacks of pyelitis. With this history of repeated pyuria and the presence of a colon bacillus in her urine, an intravenous pyelogram (Fig. 5) was done and as you can see there is a constant filling defect of the right kidney. This patient was cystoscoped and a retrograde pyelogram was done. During the cystoscopic examination a stricture of the

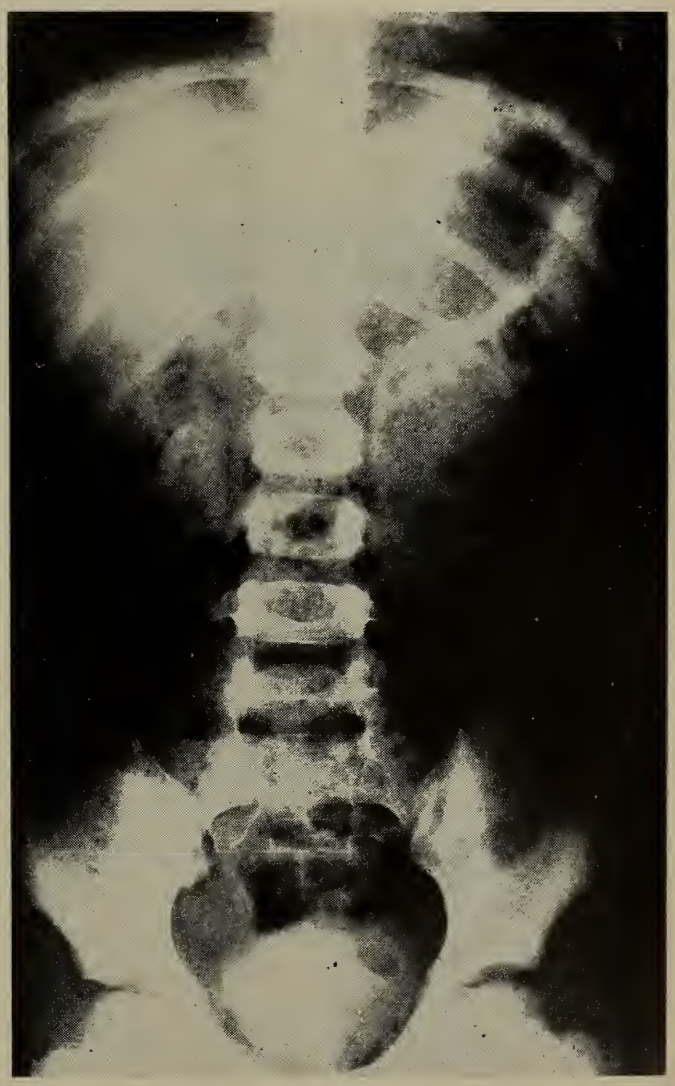

Fig. 5 Intravenous pyelogram.

right ureter was found at the junction of the ureter with the bladder. This was dilated and the patient was put on a course of mandelic acid and since that time she has not had a recurrence of the pyelitis. The constant filling defect in the right kidney proved to be a congenital bifid kidney. This, of course, had nothing to do with her pyelitis.

The cases just presented are patients of ours seen and studied in our practice in the past several years and I believe that they demonstrate fairly well the type of pathology which we may expect to find in infants and children. The type of therapy in dealing with this problem should, of course, be decided upon after the exact diagnosis is made. If obstructive lesions are responsible for the diseased urinary tract, then the obstruction should be relieved when possible. If infection is present, and most likely it is, such drugs as mandelic acid, sulamyd, streptomycin, aureomycin and chloromycetin should be used.

This paper was presented as a diagnostic pediatric paper. I have not brought anything new to you. The main purpose of it all is to emphasize that infants and children as well as adults present problems of the urinary tract and, if thought of and properly investigated, we can prevent real urinary tract damage and sometime prevent the loss of a kidney.

Reilef From Hemorrhoids, Episiorrhaphy Wounds and Cracked Nipples in the Parturient.

Postpartum distress from hemorrhoids, episiorrhaphy wounds, and fissured nipples is a common condition with many new mothers. Relief from these ailments, due to a lack of any competent specific agent has been primarily on an empirical basis, and has varied from simple nursing remedies to the use of opiates.

An ideal therapeutic measure, which is simple to use, effective in result, low in toxicity, and without hazard to patients is reported by Herbert E. Schmitz, Charles J. Smith, and George A. Carberry of Lewis Memorial Maternity Hospital, Chicago, main article in the March 1951 Western Journal of Surgery, Obstetrics and Gynecology. This agent consists of a topical anesthetic ointment containing 20 per cent dissolved benzocaine and oxyquinoline benzoate in a bland, water-soluble base.

76 patients with painful episiorrhaphy wounds were relieved in an average of seven minutes, with an average duration of 5.5 hours, duration of therapy 3.5 days. 11 patients suffering from fissured nipples were relieved in an average of 20 minutes. Duration of relief after one application averaged 5 hours, and duration of therapy 2.3 days. 13 patients with tender hemorrhoids were relieved in an average time of 10 minutes. Average duration of relief after one application was 6 hours, and average duration of therapy 4.4 days.

The authors conclude that the 20 per cent dissolved benzocaine ointment is a simple and effective means of relieving these common distressing discomforts in the parturient.

SPINAL FUSION IN THE TREATMENT OF LOW BACK PAIN—SOME CLINICAL OBSERVATIONS.*

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We have done 156 spinal fusions in the last 4½ years in our private practice, and of this group we have follow-ups on 137. The others were either discarded on account of poor records, or because the follow-up was less than four to six months. We have also followed with the other members of the Staff at the Veterans' Administrative Hospital, 55 cases. These cases at the V.A. Hospital are used for comparison because extra bone was used in these fusions. In my opinion the V.A. cases were even more carefully selected than our private cases because, here, we often have a compensatory element. These cases show about the same number of painful pseudo-arthrosis as our private cases did, and in this group we had three failures of fusions in spondylolisthesis, which is a little unusual. One of these cases could be traced to a local infection and one could not be accounted for.

In this paper no spinal fusion that was done for scoliosis, tuberculosis, etc., was reviewed for obvious reasons. The cases considered are those of mechanical weakness, due to congenital anomalies, such as sacralization of a transverse process, spina bifida, spondylolisthesis or old trauma. Localized arthritis and second disc explorations were other causes. We do not do a fusion at the first disc exploration unless there is a mechanical weakness also.

There are almost countless articles in recent years on spinal fusions of different types, each author claiming better results with his own modification of the two basic types, namely, the Hibbs and the Albee. In this paper we are dealing with one main factor, that is, the alleviation of pain and restoring the patient to a normal, or as near normal, life as possible. Some of these cases can get a perfect result clinically, yet by x-rays have a pseudo-arthrosis. Only by exploration can you be sure of a fusion[1]. Thompson and Ralsson reviewed one thousand and ninety-six spinal fusions done at The New York Orthopedic Dispensary and Hospital, and of this group they explored sixty-five cases which clinically and by x-ray examination led them to believe that they had a pseudo-arthrosis. They found fourteen of these solidly fused, showing 78.4 percent correct diagnosis under the best circumstances. We feel that the most important part in getting good results is in the choice of the patients. Most of my failures are due to this fact and not that the operation failed to fuse. With one known exception, the patients who were not satisfied or that I was not satisfied with, had very solid bony union, proven by multiple x-rays, after being followed for more than one year. This exception had complete absorption of all the bone chips and a second fusion was done, using iliac bone grafts. This patient, eventually, was much improved, but in this paper is counted as a failure.

In the selection of the patients, the evaluation of pain is essential. In this entire series all of these patients were operated on for pain and for pain only. The causes of pain in this series are listed below. The referring doctor can be of the greatest help in evaluating pain. Beware of the patient who has had many operations—this is as true here as it is in any surgery. Beware of the compensation case —these cases can be cured easily if the compensation is settled first. They can usually be cured if they have the right mental attitude and are having a great deal of pain. This pain, we prefer, should be present for a long time. We feel that the results in the Veterans Hospitals are good because (1) when a patient comes in with back pain, regardless of his x-ray findings (here again we are speaking of mechanical weak backs) he has conservative treatment and observation for a reasonable time. Much can be learned by the application of a cast and observation of a patient. A neurotic person tolerates it poorly with much gas and many complaints. (2) If a patient comes in with back pain and a desire for an increase in pension, he is treated much more conservatively. As above stated, all of these patients were operated on for pain. They had clinical and x-ray findings to back up this pain and responded to the treatment of the pain properly. All had con-

*Read before the Chesapeake and Ohio Surgeons' meeting, at White Sulphur Springs, West Virginia, November 14, 1950.

1. *Journal of Bone Joint Surgery*, April, 1949.

servative treatment first, either by us or the referring doctor. Of course, many patients show the same x-ray findings that we call here mechanical weak backs and have no pain. That is why I try to stress the fact that we operated for pain in these cases and not because of x-ray findings or to obtain a spinal fusion. There were one hundred and fifty-six cases of which we analyzed one hundred and thirty-seven. The average age of these patients was 36.5 years. The oldest was 56, and this man had a ruptured intervertebral disc and a localized arthritis. The youngest was age 20, with a complete spondylolisthesis, and the 5th lumbar vertebra was sitting in front of the 3rd sacral segment. The duration of the symptoms averaged 4.3 years. The longest was 30 years. This was a spondylolisthesis. The shortest was one week, and this was a ruptured disc with a mechanically weak back. We found thirty-five cases to have discs throughout the 4½ years. There were only 10% with disc in 1946, in comparison with 30% in 1949. Thirty-three gave a history of trauma, or about 24%. We had six compensation cases which had not been previously settled. Of these, four went back to work with a 10% general disability. One had a 25% general disability; this man had a crushing fracture with some nerve involvement of three years' duration. One patient returned with no permanent disability so far as his accident was concerned. There were fourteen cases of spondylolisthesis, about 11%. Congenital anomalies, such as sacralized transverse processes, spina bifida of the 5th lumbar or 1st sacral segment with mechanical arthritis or previous disc operations, accounted for 57% of the operative procedures. We reviewed these cases by years, and it is interesting to note that we have done more fusions in each succeeding year. We hope and think that this is because our results are proving very satisfactory and not because our practice or our desire for surgery is increasing. We also note that we fused many more following disc surgery in 1949 and 1950 than previously. We feel that this is due to the unsatisfactory result after removing disc in mechanically weak backs. We have one patient who had a disc per year for three years. At the last surgery a fusion was done and we look for a fair result. We know that multiple operations about the spinal cord cause adhesions and residual pain, and require a longer recovery period. In studying our results for a period of eighteen months, we did routine flexion and extension x-ray examinations and found 6% failures of fusions. This is comparable to the results reported by other authors, but since so many of these were clinically well we gave up the practice of x-raying these patients in flexed and extended position. We felt that it was foolish to focus a patient's mind on his back, and if he thought that he was well, we certainly would agree with him.

The Operation—We feel that the type of fusion that should be done is the simplest to be satisfactory. Bosworth,[1] in discussing McBride's paper, stated that "future advances in the art of spinal fusions at the lumbosacral angle will probably not be due to surgical techniques but the future development of knowledge of the factors favoring bone growth and repair, both local and general, will undoubtedly help to reduce the percentage of pseudoarthrosis." In our group of patients, we used no extra bone except in a few cases in which there was a defect due either to previous laminectomy or to a large spina bifida. The group done at the Veterans Administration Hospital all had iliac or some bone from the bone bank. The results were about the same done by comparable surgeons. We use a modified Hibbs' fusion, being sure to turn up the layers of bones on the laminae and across the articular facets. This wide bed is essential. The bone obtained in this manner and the spinous processes are cut in small fragments, most of them grapenut in size, to be placed in the raw bed. Another important fact is to turn bone from the sacrum across the 5th interspace, greensticking the fragments, if possible. With a sharp angled gouge this isn't hard to do. This type of operation saves lots of time for the patient and our results are better than when we use extra bone. We feel that too much bone is detrimental, particularly cortical bone. Small fragments allow motions at many places and not much at any. Another advantage is that the patient does not complain of the donor site. Seldom is a transfusion necessary. We usually match the patient for transfusion, have the blood ready but seldom have to use it. The patients are put in a cast, half spica then or eight to ten days later. They wear a cast for six or eight weeks, depending on the patient and defect. They are started on back and abdominal exercises after four or five weeks and some are allowed up with cast on in five weeks. We do not use screws in

our spinal fusions. We feel, first, that they are unnecessary to obtain fixation, and, if used, we doubt if you would get fixation in soft bone for more than a few days at best. Of course, in boiled cadaver bone they give good fixation. Metal, even screws, often give pain in extremities; why not in a back? Should you get an infection, matters are worse. Roger Anderson may be right in his belief of no fixation, externally or internally, just leaving the muscle spasm to fix the graft in place. In special cases we have used none and they did well and fused nicely.

Post-Operative—We feel that early exercise plus no strain, no heavy lifting for six months is essential. Patients return to light work in ten to twelve weeks, laboring work six months. We feel that you should not use a brace post-operatively. This admits defeat and if the patient depends on the brace he will not develop the natural brace, namely muscles.

Our results were classified according to the patient's response to treatment, and, of course, cannot be too accurate: 1. The excellent results were the ones discomfort free within four months or less. 2. The good ones were the ones discomfort free in six to eight months. 3. The satisfactory ones were the ones still having some discomfort but who could return to their former occupation. Needless to say, this third classification depends, first, on the patient and, second, on the occupation. We have had them to return to almost all branches of work with the possible exception of coal mining. 4. The un-satisfactory ones were those who felt they were not improved by the operation. We had thirty-one excellent, or 22½%; forty-six good, or 34%; fifty-five satisfactory, or 41%; and five poor, or 3.5%. This gives us 95% or more satisfactory results. I would like to state again, regardless of how un-scientific this classification is, the purpose of the surgery was to relieve the patients of pain and, if they were satisfied, we feel that the result justified the means.

Conclusions

1. The choice of patient is most important.
2. The type of operation should be as simple as possible to obtain good results, and that extra bone is not essential and may be detrimental.
3. Internal fixation is not necessary and should not be used.
4. The time of recovery in some cases may be ten to twelve months or even longer.
5. Exercises started early are essential.
6. Spinal fusion in the treatment of low back pain is a good procedure.

Indiscriminate Use of Aspirin May Affect Blood.

Serious effects may result from the indiscriminate use of such salicylates as aspirin, according to a report in the September 8 J.A.M.A.

The case of a 74-year-old man who experienced eight years of continuous intestinal bleeding as the result of prolonged use of aspirin was reported by Drs. Walter Modell and Russel Patterson of the department of pharmacology and surgery, Cornell University Medical College, New York.

"Serious toxic reactions to the salicylates are rare in relation to the widespread use of this group of drugs," the report stated. "In the present case it was possible to establish a causal relationship between prolonged intestinal bleeding and the taking of acetylsalicylic acid [aspirin]."

The patient, according to the report, suffered from weakness, anemia and a decrease in the number of colorless blood corpuscles which are believed to aid in the clotting of the blood.

The symptoms disappeared with the discontinuance of the use of aspirin. However, the doctors pointed out, they were unable to determine positively the connection between the taking of the aspirin and the reduction of the number of colorless blood corpuscles.

PULMONARY TUBERCULOSIS AND THE DOCTOR IN PRACTICE

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To accurately diagnose tuberculous pulmonary lesions in some instances today is more difficult than it has been in the past. This is chiefly because we are now fully aware of the innumerable conditions which can simulate pulmonary phthisis both clinically and roentgenographically. The tendency for the internist and chest specialist to proceed with some caution in labeling a pulmonary lesion tuberculous, unless there is some good evidence, preferably corroborative in nature, to substantiate such a diagnosis, is also a factor. The real question for discussion is just what constitutes such corroborative and substantial evidence in order to arrive at the conclusion that a given patient has active pulmonary tuberculosis, and what are the chances for the practicing physician finding such cases.

The hundreds of thousands of miniature screening X-rays being done today have given rise to more and more thought relative to this question in view of the diversified types of roentgen shadows and configurations disclosed in subjects, the majority of whom are asymptomatic and leading ordinary lives. Garland has enumerated eighty-nine (89) different conditions which, in his experience and otherwise, have been confused roentgenographically with pulmonary tuberculosis. This figure seems rather astounding and it is of course assumed that every condition he listed is *not* very *frequently* misdiagnosed as tuberculous. We do know, however, that a certain group of entities can be easily confused in this respect. It is not the purpose of this paper, though, to elucidate upon the differential diagnosis of pulmonary tuberculosis roentgenographically or otherwise. However, with the practicing physician receiving more and more reports derived from the follow-up roentgen studies of the lungs after micro-film screening as practiced today in the country, he will become increasingly concerned about the real signficance of some of these findings as reported to him, especially when further clinical investigation is a necessity in order to clarify the diagnosis. And, we should face the facts—without the practicing physician following such individuals, tuberculosis case finding is not properly organized. At the same time, the practicing physician himself can play one of the more important roles in initiating case finding, if not the most important in many respects. To quote Hilleboe, "Tuberculosis presents at once a challenge and an opportunity to the general practitioner. Thousands of persons who have tuberculosis go to private physicians for other illnesses and no official agency ever sees them—too often it is assumed that the control of tuberculosis is solely the health department's domain of action. This is not true, nor can it ever be true, so long as men practice the ancient art of medicine."

One may ask a few questions. What are the chances of a physician finding pulmonary tuberculosis today in an average practice? Is tuberculosis prevalent? If so, is it all active? Hasn't the death rate fallen appreciably over the years? Finally, how can I, a practicing physician, uncover such a disease which at times is so "silent"? In answer to the question concerning the falling death rate, the reply is "Yes." But this is not even a partial reassurance. Let us glance at the picture during the past few years and see what has happened to tuberculosis morbidity and mortality in the U.S. Between the period 1940 and 1947 the TB death rate declined from 45.8 to 33.5 per 100,000, per year, or 27%, while the registration rate of new cases rose from 76.4 to 93.3 per 100,000, an increase of 22%. Shown in a different way, during the period 1940-47, the actual number of deaths fell from 60,428 in 1940 to 48,064 in 1947, or 20%; but the number of new cases reported went up from 100,772 in 1940 to 133,-837 in 1947, an increase of 33,065 or 33%. It then appears that death rate is a limited and inadequate index of the prevalence of the disease in the community. Case finding surveys, growth of the pop-

ulation, wartime strain, immigration of new susceptible groups have all probably contributed to a larger number of known tuberculosis cases. At the same time, extension of hospital facilities, abolition of the "means test" in certain areas, and widespread health education campaigns have resulted in a larger number of patients accepting hospitalization. It is probable that the trend toward more public health teaching in the curricula of our medical schools in the last few years have stimulated the more recent graduates to be more "tuberculosis conscious" than the older practitioners, which in turn, has contributed to case finding. Modern treatment of the disease, including rest, collapse therapy, surgery, antimicrobial therapy is increasingly reducing the mortality rate, though not necessarily preventing the outbreak of new cases. Approximately one-half of all cases of significant tuberculosis have no symptoms, or symptoms so slight as to escape notice. According to the National Tuberculosis Association estimate there are a quarter of a million unknown cases of tuberculosis in the U.S.—at least as many as there are known cases—and recent experience indicates that the unknown cases far out-number the known. In the 1948 mass survey in Washington, D. C. 4,098 cases out of 4,665 cases of tuberculosis discovered were previously unknown to the Health Department. Similar findings have been reported in all other large surveys.

In the greater Richmond area, an analysis of the results derived from the joint X-ray survey program put on in the last three years by the Richmond City Health Department and the Richmond Tuberculosis Association, co-ordinated with many other agencies, reveals that the over-all incidence of tuberculous lesions in a cross section of the population is a little better than one per cent. An average of .1 per cent of the cases found are active beyond question at the first examination. From .2 to .4 per cent require definitive follow-up study and careful watching. The remainder are regarded as inactive or healed. We now have evidence of the higher incidence of pulmonary tuberculosis in patients admitted to general hospitals as compared to the general public. Significant are figures from six general hospitals in this country which report incidences from 4.2 to 8.1 per cent reinfection tuberculosis determined by routine chest X-rays of all admissions, for variable periods. Then, why shouldn't the portals of our physicians' offices be a fruitful field for tuberculosis case finding? In the writer's opinion, it certainly is that. Now, how can the physician uncover the cases of pulmonary tuberculosis we know are prevalent in this day and time?

Ordinarily four basic steps are necessary for the diagnosis of pulmonary tuberculosis. They are:

1. Prove infection (tuberculin test).
2. Prove existence of a focus in the lung (history, physical examination, and X-ray).
3. Prove this focus to be tuberculous (examine sputum or gastric contents).
4. Prove that this focus is active (sputum examination, serial X-rays showing progression, reaction, etc.).

When one considers the history in a given case which is suspicious clinically or otherwise for pulmonary tuberculosis, inquiry is first made regarding the family history of this disease and then whether the case in question has been in contact with a known, and especially so-called, "open" case of tuberculosis. If there is positive information in these respects, how significant should we regard it? If such history is negative, how should it influence our thinking? In respect to a contact history, it can simply be stated that, as a group, contacts more frequently have tuberculosis than non contacts. It is now accepted that as far as the case finding is concerned, we may expect to find from 25% to 50% of all tuberculosis by merely examining the contact group alone. As a matter of interest, in a group of one hundred and thirty-six tuberculous patients surveyed at Pine Camp Hospital recently, including both white and colored patients, the over-all incidence of those with a family history of tuberculosis was 29.1% and those with a definite contact history 23.9%. Only those were put in the latter group who had a reasonable continuous contact with a known active case, usually beyond a month's period. The writer is convinced that while contacts are a group with relatively high incidence, this group should not *and cannot be given* exclusive attention. Expressed in other words, it appears that the modern trend of thinking should be towards the "endogenists" and their beliefs that we can explain the incidence in the non contact group by their "endogenous" theory, but, at the same time, we should be willing to accept "exogenous reinfection" as another principle in the pathenogenesis of this disease, especially on the contact group. While

no serious writer over the years has ever challenged the causative role of the tubercle bacillus, the old equation, *human host plus tubercle bacilli = tuberculous disease,* is certainly not accurate as the discrepancy between the prevalence of tuberculous infection and that of tuberculous disease completely justifies this conclusion. The usual and scientifically wholly unjustified conclusion is that the greater frequency of tuberculosis is caused merely by exposure to infection. Since contact usually implies co-residence, a similar level of living conditions, particularly in regard to nutrition, and frequently varying degrees of consanguinity, infection is only one of the plausible factors which may explain increased tuberculous morbidity in the contact group. In brief, from the practitioner's viewpoint, when he is dealing with a contact or contacts of a known active case, it suffices to say he might "prick up his ears a little higher" and make sure this person is examined carefully, including X-rays, and followed by such serial examinations for a minimum of two years, and even longer when thought advisable. The lack of a contact history, however, should have no influence at all, in dealing with suspected tuberculosis in a given case.

In respect to family history, the impression for years has been that members of families with clinical tuberculosis are particularly apt to develop the disease and that the clinical course is similar in close relatives. The tendency has been dominant to explain the frequency of tuberculosis in family members by exposure to infection. Yet, the similarity of the clinical course in blood relatives cannot be so explained. The relative roles played by heredity and environment in the development of tuberculosis have been perennial subjects of discussion. Recently, experiments have shown that there is a considerable basis for the long held belief that heredity plays a role in the evolution of the disease even though that tuberculosis is not actually hereditary is an established fact. In short, in a given suspected case it might be said that a family history is a bit of evidence to be considered on the positive side. The more we consider this particular subject, the more we see a close relationship between infection from contact, environmental and hereditary factors, and, oftentimes, all three factors are directly involved.

The frequent absence of symptoms, or, at least, of symptoms alarming enough to send the patient to the physician, in many cases of pulmonary phthisis is well known in this day. However, these patients *are not all asymptomatic.* Any deviation from optimal health, existing for several weeks, must arouse suspicion unless satisfactorily explained by other definite findings. Many cases of pulmonary tuberculosis would be diagnosed months and, at times, years earlier than they are, if it were not so frequently assumed that fatigue, poor appetite, chronic anemia, vague gastro-intestinal disturbances, weight loss and a score of others, occur commonly without organic disease. It should be realized that such symptoms may be manifestations of active tuberculosis. Such diagnoses as "chronic bronchitis", as an example, so often hide in patients, tuberculosis, bronchiectasis, or bronchogenic carcinoma. The infinite variety of symptoms that pulmonary tuberculosis may cause confronts the physician with a challenge. There are no classic symptoms of pulmonary tuberculosis in this day. The former belief, as an example, that hemoptysis was a so-called cardinal symptom is now known to be in error. Some observers believe that bronchiectasis, as an example of one of the common causes of blood spitting, is leading the list in the relative incidence of this symptom.

It may seem trite but it is worth repeating here; the elicitation of physical signs is of value in the diagnosis of lung disease; the lack of signs does not indicate the absence of disease. Advanced pathologic changes may be present in both lungs without demonstrable physical signs. Disease of the bronchial elements is apt to be associated with an abundance of auscultatory signs; of the alveolar elements, with a paucity of signs. It is not the writer's idea to devaluate the need and application of physical examination of the chest towards the diagnosis of this disease, but to emphasize our limitation in this respect. At the other extreme the percussion finger and the stethoscope can play a valuable role in a sanatorium where the diagnosis is already established. Fellows compared the roentgen and physical signs in 280 patients with early pulmonary tuberculosis. Abnormal physical signs were present in only 21%. Sampson and Brown reported that, in 392 cases with advanced pulmonary tuberculosis with cavity on X-ray, in only 15% were there physical signs suggestive of cavitation. In spite of the lack of correlation between roentgenographic and physical findings, we must utilize physical examination of the

chest as one of our methods in the detection of this disease, and in many instances the existence of a pathologic focus in the lungs can be proven this way. The *absence of a tuberculous focus, however, can never be proved without an X-ray examination.* This is now a generally accepted fact. There is an apparent trend in the younger graduates, however, to almost completely disregard physical examination of the chest as being of any real value towards the diagnosis of lung lesions. This is definitely a wrong tendency for obvious reasons. There will be many times wherein physical examination is all we have in our armamentarium at a particular given moment, such as in the home, be it in the city or in an isolated rural area, or where, as an example, the patient is not in an ambulatory condition and we need all the information we can possibly obtain at the bedside in order to proceed with an optimum plan in the handling of that particular case. Some practitioners, again, seem to think a negative examination of the patient behind the fluoroscopic screen is "reasonable chest clearance." There is no greater fallacy. Even in expert hands the early parenchymal infiltrate can be easily missed by such an examination. It might be safely said that in a clinical evaluation of the lungs the fluoroscopic examination should always be supplemented by a roentgenogram. Finally, in this day and time, a complete and thorough physical evaluation and study is not complete without a chest roentgenogram.

Probably one of the most neglected of our older procedures is the simple tuberculin test. The technical details concerning this procedure will be omitted as this would entail lengthy discussion. We merely want to emphasize the value of this test which is generally not appreciated. Quoting Myers, "every person who reacts characteristically to tuberculin has tuberculous lesions, regardless of his state of health and the lack of other evidence. Such a person has tuberculosis just as certainly as the patient who is dying of the disease. The difference is just one of degree: In the person who is dying, the disease has evolved through various stages; but at one time that person could have been found to have no evidence of tuberculosis except the tuberculin reaction." Whether or not we agree fully with the statement is not important. We have to accept, that, *tuberculin makes it possible to distinguish between infected and non infected beings,* because only the former react to an intra cutaneous injection of tuberculin. Whether or not the reactor has clinical tuberculosis must be determined by other methods as the test does not permit differentiation between mere infection and disease. In clinical diagnosis the main function of the test is, in short, to rule out tuberculous disease. In general, the diagnostic value of the tuberculin test increases with the decreasing age of the patient. In children, particularly below the age of five years and especially below three years, a positive test means recent infection and, therefore, often active or potentially active disease. In addition, such a circumstance means an examination of all the adult contacts is required. In the great majority of instances the source case can be found. The popular patch test is especially valuable in the case of children where it may be advisable to avoid the use of needles. In addition, parents can sometimes be persuaded more easily to give consent to a tuberculin test if no injections, no needles, are employed. When dealing with a pulmonary lesion and tuberculosis is being considered in the differential diagnosis and without other corroborative evidence at hand, the tuberculin test should always be done and, if negative, may exclude tuberculosis. When it is positive, and when there is no clinching evidence at hand, it is merely another bit of information to add to the positive side of the evidence which will enter into our final analysis of a given case.

Unlike the positive tuberculin test, the finding of tubercule bacilli in the sputum is specific for the diagnosis of pulmonary tuberculosis. This is one function of the clinical laboratory of such outstanding importance that it overshadows the significance of all the other procedures combined. Towards a diagnosis of this disease the statement rests on these facts:

1. In a number of cases of pulmonary disease only the demonstration of tubercle bacilli can completely establish the diagnosis.
2. In the majority of cases of active pulmonary tuberculosis, the demonstration of tubercle bacilli is a quick and the only unequivocal method of diagnosis.
3. Finding tubercle bacilli in sputum (or by gastric lavage) proves the activity of the lesion present and indicates the need for treatment, unless and until proved otherwise.
4. Sputum examinations with negative results are

frequently one of the most important criteria to exclude the diagnosis of pulmonary tuberculosis and to arrive at a correct diagnosis.

It has been emphasized again and again that all too frequently sputum examinations are not done with the proper care and technical perfection. The fault is not all in the laboratory. It starts with insufficient instruction for the patient by the clinician. Many patients need careful explanations as to what sputum is and as to the mechanism of expectoration —in the vernacular, if the patients background requires it. It is not intended here to discuss the technique of sputum examination. Yet, it must be pointed out how a sputum report should be evaluated by the clinician. For this, he should know whether it was really sputum that was examined and not saliva or nasal secretion. *Let us routinely have sputum examinations done routinely in our patients who are expectorating.* It has been estimated, incidently, that nearly four per cent of all persons who visit physicians offices are coughing or expectorating. The alert physician will insist upon a sputum examination of all such patients. The reward is sure to come, sooner or later. A final word concerning sputum examinations. Let's not stop at just one, two or three specimens in a given case. Not too infrequently it is that fourth, or sixth, or even twelfth specimen that proves to be positive.

CONCLUSIONS

1. The death rate of pulmonary and other forms of tuberculosis is not an accurate index as to its prevalence.
2. Examination of the so-called "contact group" alone as a case finding means would fall very short of our mark.
3. There are no classic symptoms of pulmonary tuberculosis in this day.
4. The absence of pulmonary tuberculosis can never be proved without an X-ray examination of the chest.
5. We should make use of the simple tuberculin test as an aid in the diagnosis of tuberculosis lesion.
6. We should strive to do more sputum examinations for the detection of acid-fast bacilli—particularly in our every day practice of medicine.
7. Pulmonary tuberculosis is still prevalent in spite of reduction in mortality rate during the past few years.
8. The general practitioner can and should play a major role in tuberculosis case finding.

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CLINICOPATHOLOGICAL REPORTS

From the Case Records of the Medical College of Virginia and the University of Virginia Hospitals

Harry Walker, M.D., *Editor*
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Case No.: 71

A 53 year old, white, married housewife was first admitted to the Psychiatric Service for observation. She had persisted in pathological prevarications so much so that it was thought necessary for some psychiatric observations to be made. Physical examination was negative. The urinalysis and blood count were normal. The serum bromide level was 36 mgm.%, NPN 36 mgm.%, and blood sugar 100 mgm.%. Flocculation negative. ECG normal. Before adequate study was complete her release was requested and she was discharged with the diagnosis of psychopathic personality with schizoid tendencies.

Eight months later she was again admitted from an outside hospital because of fever of 104°F. Ten days prior to this her delusions again had become prominent, and she showed evidence of social deterioration. She had consumed a half-pint of whiskey, had fallen and struck her head against a radiator some five days before admission. The day of admission she had been placed in another hospital with high fever, which had subsided with intravenous glucose, penicillin, and aspirin. She had not eaten much in the last ten days. A urine specimen showed 2+ albumin, many red cells and a few white cells.

When first seen she was lying in bed, alert but restless. She appeared to be well developed, poorly nourished, and older than her stated age. Although acutely ill, she was responsive to questioning and was mildly euphoric. Anger was shown towards her husband, she was disoriented as to time, and insight and judgment was thought to be impaired.

Temperature 101.8°F. Pulse 120 per minute. Blood pressure 68/30. The head, eyes, ears, nose and throat were normal. The neck was negative and the chest clear. The heart sounds were regular, but rapid. The abdomen was soft and flat without masses or organs palpable. The extremities and neurological examination were normal.

Hemoglobin 14.6 grams; RBC 4,940,000, WBC 11,700 with 84 polys., 12 lymphs., and 2 monos. A catheterized urine specimen was straw, cloudy, and acid with specific gravity 1.018, 2+ albumin, 2+ sugar, and negative acetone. There were many granular casts, 1-2 WBC/HPF, and 16-18 RBC/HPF. NPN 43 mgm.%.

She was given 4 cc. of paraldehyde, but promptly vomited it. She was then given 10 cc. of adrenal cortical extract intravenously. The blood pressure was 84/40 and an hour and a one-half later was 104/60, and two hours later 98/40. An ECG showed sinus tachycardia and abnormal T waves; "it was quite abnormal since previous tracing eight months ago". She was also given streptomycin, penicillin parenterally, and terramycin orally. During the night 2000 cc. of intravenous fluids and 10 cc. of adrenal cortical extract were given. Hypotension persisted and she was apparently in or near shock levels for at least eighteen hours. She was given 1000 cc. of whole blood with rise in blood pressure to 105/60 but twelve hours later it had gradually declined to 70/50. During this day she was seen by a consultant who found shock a predominant feature. The abdomen was slightly distended and tympanitic without rigidity or spasm. Acute tenderness was present over both kidneys and output in twelve hours only 120 cc. against an intake of 1500 cc. Other laboratory work at this time showed: Urine—acid, cloudy, specific gravity 1.015, 2+ albumin, 1+ sugar, 30-40 RBC/HPF, occasional WBC/HPF. Blood: Hbg. 15.6 grams, RBC 5,-210,000, WBC 27,250 with 95% polys., 3 lymphs., and 2 monos. A smear taken for malaria showed "leukocytosis, marked toxic granulation, and Sohle bodies. Platelets appear reduced. No malaria seen". Sodium 134, potassium 4.0, chlorides 102 meq/L respectively. Blood sugar 148 mgm.%. She was given adrenal cortical extract and caffeine.

In the next twelve hours the blood pressure had risen to 90/70, and twelve hours later to 120/90. Urinary output remained poor. Spinal fluid was normal. Agglutinations negative.

The next day CO_2 was 23 meq/L and NPN was 80 mgm.% with creatinine of 6.3 mgm.%. Chlorides 102 meq/L. Clinically the temperature was subsiding and she was more rational. Two days later

the blood pressure had risen to 160/100 and ranged between 140-160 systolic over 90 to 100 diastolic for the next five days. She developed abdominal distention. Her mental status varied between clearness and confusion. She vomited frequently. The distention persisted but she was passing gas rectally. Temperature became normal.

A chest plate taken on admission suggested pneumonitis in the left lower lung field. A flat plate of the abdomen five days after admission showed the large bowel markedly distended. A chest plate disclosed some density in the right lower chest suggesting atelectasis. A barium enema was normal.

The sodium and potassium remained normal, spinal fluid was normal and culture negative. The urine was loaded with red cells and specific gravity was now 1.010 on several occasions. The NPN was 80 mgm.% with a creatinine of 7.5 mgm.%. Leukocytosis persisted and RBC was 5,720,000 with 18.1 grams of hemoglobin five days after admission. The NPN rose to 128 mgm.%, creatinine 9.0 mgm.%. A serum bilirubin was normal. Bleeding and clotting time normal, prothrombin concentration 50%. An ECG showed auricular tachycardia.

Ten days after admission the blood pressure began to fluctuate markedly, respiration became labored, and the abdomen again greatly distended. The urinary output now was 60-70 cc. every twenty-four hours, and the hematocrit rose to 61% with 22 grams of hemoglobin. She had been receiving prostigmine. She had continued to vomit and had become drowsy. A Wangensteen suction was instituted and she had several large liquid stools. In the last thirty-six hours temperature rose to 102°F., she was in shock and in spite of all treatment the blood pressure could not be elevated. She developed labored breathing, became cyanotic, and died on the thirteenth hospital day.

DISCUSSION BY DR. WILLIAM M. ANDERSON.*

This case is that of a 53 year old, white, woman, who was first seen in this hospital because of a psychiatric disorder, characterized by "pathological prevarications"—or in other words deviating from the truth to an abnormal extent. This symptom must have been very contrary to the patient's usual character, otherwise she would not have been hospitalized for it. All laboratory studies on this admission were within normal range except the blood bromide which was elevated (36 mgm.%), this level usually does not come with psychotic behavior. The patient left the hospital before any treatment could be given. The discharge diagnosis was psychopathic personality with schizoid tendencies.

We then lost sight of this patient for a period of eight months. It would be useful for our purpose to know whether her symptoms persisted, progressed, or abated during this period, but the protocol does not supply us with this information.

We next heard of the patient when she was readmitted to the Medical College Hospital following a ten day illness in which her delusions became more prominent and other evidence of social deterioration became apparent. She fell five days prior to admission and struck her head, but there is nothing else in the record which would make one think that this had any bearing on the final outcome. On the day of admission she had been seen at another hospital where high fever was noted to subside following treatment with glucose, penicillin and aspirin. Her urine was said to show two plus albumin and many red blood cells at that time.

On admission to the Medical College Hospital she was alert, but restless. She appeared euphoric, was disoriented as to time, exhibited anger toward her husband (which may or may not have been abnormal for her), and demonstrated poor insight and impaired judgment. She had fever of 101.8°F., pulse rate 126 per minute and a blood pressure of 68/30. Her physical examination was otherwise not revealing. The laboratory work was essentially normal except for a slight leukocytosis (11,700) with some shift to the myeloid series, two plus albuminuria, glycosuria, many granular casts and 16-18 red blood cells in the urinary sediment. The NPN was 43 mgm.%.

She was treated with ACE intravenously and the blood pressure rose temporarily. Treatment was also begun with Streptomycin, Terramycin, penicillin, I. V. fluids, whole blood and more ACE. In spite of this she was "in or near" shock for 18 hours. An electrocardiogram on the day of admission showed a rapid rate and what was described as "very abnormal T waves". This finding is rather non-specific and not of much help at this time.

On the second hospital day, the blood pressure was still low and a consultant was impressed with shock.

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The abdomen was distended and tympanitic, and the CVA were acutely tender bilaterally. This latter observation may prove to have been one of very great importance. During 12 hours of this second day the patient excreted only 120 cc's of urine in spite of an intake of 1500 cc's. The urine again showed two plus albumin and 30-40 red blood cells. The serum sodium was a little low (134 meq/L.) but potassium and chloride were normal. I think the glycosuria and blood sugar of 148 mgm.% have to be disregarded since this patient doubtless was receiving much I.V. glucose in an attempt to keep the blood pressure up. The white blood count by the second day had risen to 27,250 with even more shift to the left and the appearance of toxic granulation and Döhle bodies. I understand that this toxic granulation is a rather non-specific finding and is often seen in association with severe infections, as well as in some cases of carcinoma. The presence of so-called "hair cells" was not mentioned. It would be of some interest to know whether these were found, since they are regarded by some hematologists as indicative of neoplasm. Döhle bodies are cytoplasmic inclusions which were orginally found in the granulocytes of most patients with scarlet fever. Since this original discovery they have also been noted in other coccal infections and I am not aware of any other significance which might be attached to them.

At this time a lumbar puncture was done and the spinal fluid found to be normal. Agglutination tests were also negative. The patient was treated with more ACE and caffeine, and the blood pressure fluctuated at near normal levels. Her urinary output continued to be poor.

On the third hospital day her NPN had risen to 80 mgm.% and creatinine to 6.3 mgm.% (normal 1-2 mgm.%). This could have been the result of inadequate glomerular filtration resulting from the low arterial pressure. Her temperature was down and she appeared more rational.

No mention is made of the 4th hospital day, so we may assume that the patient remained about the same.

The patient's condition from the 5th to the 10th hospital day changed from time to time but no definite trend was noted. Her blood pressure stayed up around 160/100. Her mental status varied. She vomited often and abdominal distention was a problem. Gas was passed by rectum, however, and x-rays of the abdomen and chest were made.

The patient's temperature remained normal, serum sodium, serum potassium, and spinal fluid were all reported to be normal. The urine, however, was again loaded with red blood cells; the NPN went from 80 mgm.% to 128 mgm.%, creatinine from 7.5 mgm.% to 9 mgm.%; and the leukocytosis persisted. The red blood count and hemoglobin began to show evidence of severe hemoconcentration. Other laboratory data obtained during this period were: a normal bilirubin, a normal bleeding and clotting time and a prothombin concentration of 50%, which is not low enough to cause bleeding. The electrocardiogram again showed auricular tachycardia.

On the 10th hospital day (or 20th day of terminal phase of her illness) her blood pressure began to fluctuate more, respiration was labored, abdomen distended and she passed only 60-70 cc's of urine in 24 hours. Hemoconcentration became much more severe (hemoglobin 22 grams). She vomited frequently, appeared drowsy, and passed several large liquid stools. Her temperature was 102°F. This situation persisted in spite of treatment and the patient died in shock and cyanosis on the 13th hospital day—or 23rd day of terminal illness.

To summarize briefly—this patient was a 53 year old white woman who from the standpoint of history and symptomalogy had an illness of nine months or 23 days' duration, depending on whether one believes the early psychotic symptoms were part of the final illness or were entirely unrelated, and who, in addition to the psychiatric complaints, exhibited cyanosis, anorexia, vomiting, oliguria, and diarrhea terminally. From the standpoint of physical signs, she showed intermittent fever, a distended tympanitic abdomen, bilateral costo-unilateral angle tenderness, persistent hypotension and tachycardia, and finally death in shock and cyanosis.

Laboratory studies revealed two plus albuminuria, hematuria, leukocytosis with a shift to the left, toxic changes in the leukocytes, severe hemoconcentration, steadily rising non-protein-nitrogen and creatinine in the blood and a slightly lowered serum sodium.

The x-rays showed lung lesions and a distended colon.

The electrocardiogram revealed auricular tachycardia and abnormal T waves.

Her response to treatment with adrenal cortical

extract was questionably good, while the effect of antibiotics was even more uncertain. Various supportive measures were at times helpful, but she died 23 days after the onset of her terminal illness.

In approaching the differential diagnosis in this case, I think that there are four main phases of the patient's illness which need discussing: (1) psychiatric, (2) circulatory abnormalities, (3) evidences of infection, (4) urinary changes.

There are four possibilities regarding the connection of this patient's psychiatric symptoms with her final illness: (1) They represented a primary personality disorder without organic basis and were entirely unrelated to the terminal disease. (2) The psychiatric disease might have caused another organic disease, as for example alcoholism might lead to cirrhosis of the liver, or a depressed person might take poison. Bichloride of mercury poisoning could have been responsible for some of the symptoms seen in this patient. This aspect will be discussed later. (3) The psychiatric symptoms might have represented a primary organic disease. The personality deterioration, abnormal mood, pathological lying, alcoholism, etc., are sometimes seen in a patient having a lesion in the frontal lobe. But against a primary neurological disease would be the normal spinal fluid and the absence of any other neurological signs. (4) The psychiatric disorder might have been part of a generalized disease or secondary to disease elsewhere in the body. Infection, however, would not be a suitable explanation here since there was no evidence of infection on the first admission when pschiatric symptoms were prominent. A neoplasm with distant metastases in the brain could not be ruled out, however, and might offer a suitable basis for this picture.

The second striking feature of this case was the persistent hypotension and finally death in shock. The oliguria and azotemia might be thought of as secondary to the hypotension but the possibility of a primary renal factor in their pathogenesis should be considered. Among the causes of shock, the simplest and most obvious is hemorrhage. Certainly this patient did not bleed externally and there was no evidence of bleeding into the gastro-intestinal tract. Furthermore the shock of hemorrhage is usually associated with hemodilution and lowered hemoglobin (after several hours), while the reverse was true in this case. Failure of the heart to pump blood into the periphery may cause shock, but when it occurs it is most often associated with myocardial infarction, and in this patient we have neither the typical chest pain nor the electrocardiographic findings of this condition. Shock in this patient was like the shock associated with severe burns where serum escapes from the intravascular space and blood volume is lowered. A similar condition may occur whenever extensive tissue damage occurs. Sometimes an overwhelming infection of one sort or another can produce this type of shock. And we do have in this case classic signs of infection—fever, leukocytosis, shift to the myeloid series, and certain granular changes in the cytoplasm of the leukocytes. It is difficult, however, to think of an infectious agent which alone would produce a course such as this. If infection were present, I believe that it played a secondary role to some other underlying disease.

In any case of unexplained persistent hypotension one should always think of adrenal cortical insufficiency. This may be of two clinical types—acute or chronic. The latter is known as Addison's disease and is characterized by bronzing of the skin, low blood pressure, weight loss, weakness, anorexia, low blood glucose, low serum Na and Cl and high serum K. The skin of this patient was not pigmented and the electrolytes were pretty normal, and I do not think she had Addison's disease. Acute adrenal cortical insufficiency in a person with previously normal adrenal glands, however, is not associated with bronze skin, and the electrolytic changes in the blood may not become apparent immediately. This syndrome is associated with nausea, diarrhea, vomiting, shock, costo-vertebral angle pain, weakness, hyperpyrexia, prostration, and death. To support this diagnosis we have the clinical picture, borderline low serum Na, the blood pressure response to adrenal cortical extract, and the absence of any other adequate explanation for shock. The usual etiology of acute adrenal cortical insufficiency is either hemorrhage into the adrenal glands with destruction of the parenchyma or thrombosis of the adrenal veins.

It seems unlikely that infection such as meningococcemia occurred here and caused destruction of the adrenals. There were no petechiae or other signs of bacteremia and the duration of the illness would not be in keeping with that diagnosis.

The evidences for infection in this case were the intermittent fever with questionable response to antibiotics, severe leukocytosis with shift to the left, and toxic granulation in the cytoplasm of the leukocytes. Many of the patient's symptoms could have been the result of infection. If we assume then that infection was present, it is necessary to decide whether it was the primary disease or occurred secondarily to some other disease. In trying to make this decision it might be helpful if we ran through some various specific infectious agents in hopes of finding one which is known to produce a clinical picture similar to this patient's. Certainly, I can think of no filtrable virus which would cause a disease of this duration with leukocytosis. Rickettsial diseases are usually associated with a skin rash, which this patient did not have. Among the bacteria no coccal or bacillary infections would be likely to produce this picture without some evidence of bacteremia or of localization of an inflammatory process. Fungal infections or parasitic infestations do not fit the picture. Among the spirochaetes, however, there is one disease which at least superficially resembles that which this patient had; namely, Weil's disease. This is characterized by fever, leukocytosis of marked degree, vomiting, slow pulse (early in the disease), petechial hemorrhages and aching in the muscles. The onset is rather sudden and "grippe like", and about the fifth day jaundice becomes noticeable and oliguria sets in. (30% of the cases are said not to show jaundice.) When death occurs it takes place usually between the 9th and 16th days. This patient, however, probably did not have Weil's disease for the following reasons: There was no history of suitable exposure; jaundice would be expected in a patient who died of the infection; there was no response to penicillin; and usually the spinal fluid in Weil's disease shows an elevated cell count and xanthochromia, which this patient did not have. Thus none of the infectious agents seems to fit the picture very well. We are then left with the possibility that if infection was present it was probably secondary to some other underlying disease.

The fourth striking set of abnormalities in this case were those of the urine: namely, two plus albumin, many red blood cells, and many granular casts; and of these the hematuria seems most important. The possibility of this having been the result of catheter trauma is unlikely since it was present in many examinations. It would be impractical to consider all of the possible causes of hematuria. Some of the more likely ones, however, might be ruled out as follows: Nephritis would be associated with hypertension and red blood cell casts in the urine, neither of which was present here. Hematuria due to urinary calculus is likely to be painful and would not be expected to cause death in shock. Renal tuberculosis is characterized by hematuria, but tuberculosis is usually recognized elsewhere in the body and the urine also contains inflammatory cells. Other bacterial infections may cause urinary bleeding but are invariably associated with pyuria. Infarction of the renal parenchyma is manifested by hematuria, and kidney pain, but this circumstance is usually the result of emboli which lodge in renal arteries and arterioles, having come most often from endocardial vegetations or thrombi. This case presented no evidence of endocarditis. Blood dyscrasias may be associated with hematuria. In this case the bleeding and clotting time were normal and the prothrombin time 50% which is not low enough to cause bleeding. No mention is made in the protocol of the platelets or of the clot retraction time. The description of the smear did not suggest leukemia. A condition known as "lower nephron nephrosis" is characterized clinically by oliguria, shock, vomiting, hemoconcentration, blood in the urine, albuminuria, granular casts in the urine and a rising NPN. The blood pressure often is seen to fall to shock levels on the first day of illness, to then rise to about normal levels on the second day, and afterwards to hover in moderately hypertensive levels. Edema may or may not be present. This patient's clinical picture certainly seems to fit this syndrome. The question is whether the lower nephron nephrosis was secondary to shock from some other casue or whether the shock was due to the lower nephron nephrosis which was in turn due to some unknown cause. Other known causes for the lower nephron syndrome are transfusion reactions, severe trauma to muscle, extensive burns, and reactions to sulfa drugs. Carbon tetrachloride when inhaled will damage the lower nephron and produce a picture like this, and it is not necessarily associated with obvious liver disease. Persons who are chronic alcoholics or have recently ingested alcohol are known to be hyper-susceptible to the effects of carbon tetrachloride. Possibly this patient with her personality

deterioration became alcoholic and somehow or other was exposed to this chemical. I do not believe that this can be ruled out. Bichloride of mercury ingested with suicidal intent will produce renal damage with oliguria, etc., but here we usually see abdominal pain, blood streaked vomitus, loose bloody stools, collapse, delirium, convulsions, and death often within the first 2 or 3 days of illness. There are two other rather rare conditions which should only be mentioned: necrotizing papillitis of the kidneys which may be fatal and which occurs in diabetics. I do not think this need be considered further. The other condition is known as bilateral cortical necrosis of the kidney. This usually occurs in toxemia of pregnancy, but occasionally is seen during infectious diseases. The pathological picture is that of thromboses and hemorrhages throughout the kidney, and the clinical characteristics are anuria or oliguria with hematuria and elevated NPN. The etiology is unknown but is thought to be related to certain vasomotor changes in the kidney. I see nothing in this case to support this diagnosis. In unexplained hematuria one should always think of neoplasm somewhere along the urinary tract. I do not believe we can rule out that possibility here. The presence of a mass in the region of the kidney or a filling defect in an I.V. pyelogram would have firmly supported such a diagnosis but we have the benefit of neither in this patient. The hematuria then remains unexplained but, of all the possibilities mentioned, neoplasm and lower nephron nephrosis would seem to be the ones least ruled out.

If we suppose that this patient really did have a carcinoma of the kidney, the most likely type would be the so-called hypernephroma or Grawitz tumor. This is a relatively slow growing tumor in adults which may be asymptomatic for many months and sometimes is first announced by symptoms from a metastasis. The frontal lobe lesion in this case might then be such a metastasis. This tumor then characteristically invades the renal pelvis, causing hematuria, and later extends into the renal vein. The adrenal vein on the left usually empties into the renal vein and thus would be occluded. This tumor has been known to grow out into the vena cava and up as high as the right auricle of the heart. It would not require too much imagination then to see how such a circumstance might also involve the right adrenal vein which empties into the vena cava directly. Thus, with both adrenal veins occluded, the occurrence of adrenal cortical insufficiency would be inevitable. Pulmonary and hepatic metatases might also be present since they are known to occur. Bronchopneumonia alone or in combination with necrosis of tumor tissue might explain the fever and leukocytosis. This explanation is certainly far from established and is presented merely as an interesting possibility.

I think that the important diagnostic clues in this case were hematuria in a fatal illness in which kidney tenderness, oliguria, and shock were features. This to me would tend to localize the primary disease to the kidney. The evidences of infection, the hypotension and shock, the hemoconcentration may all have been secondary. The question as to what the basic renal lesion was remained unanswered, but if I had to take my pick I would say lower nephron nephrosis due to some unknown toxic substance such as carbon tetrachloride which she inhaled soon after ingesting alcohol.

HOSPITAL DIAGNOSIS: Adrenal cortex insufficiency, cause (?).

DR. ANDERSON'S DIAGNOSES: 1. Adrenal cortical insufficiency. 2. Lower nephron nephrosis (? etiology).

PATHOLOGICAL REPORT: Dr. Gordon R. Hennigar*.

The heart was of normal size and weight. The myocardium was pale, soft and flabby—an appearance not infrequently seen in anemia, shock and severe infections.

Except for bilateral basal atelectasis, the lungs were not remarkable. The liver, pancreas and gall bladder showed no special pathological change. In none of the organs, either at autopsy or gross conference, could any focus of active infection be discovered.

The right and left kidneys weighed 170 and 180 grams, respectively. The cut surface revealed accentuation of the cortical vascular markings and congestion of the pyramids. Both adrenal glands were the "seat" of hemorrhagic infarctions. The latter were situated primarily in the medullae of the glands. The right weighed 18 grams and the left 13 grams. The right gland was more extensively involved than the left (fig. 1). Thromboses in the adrenal veins

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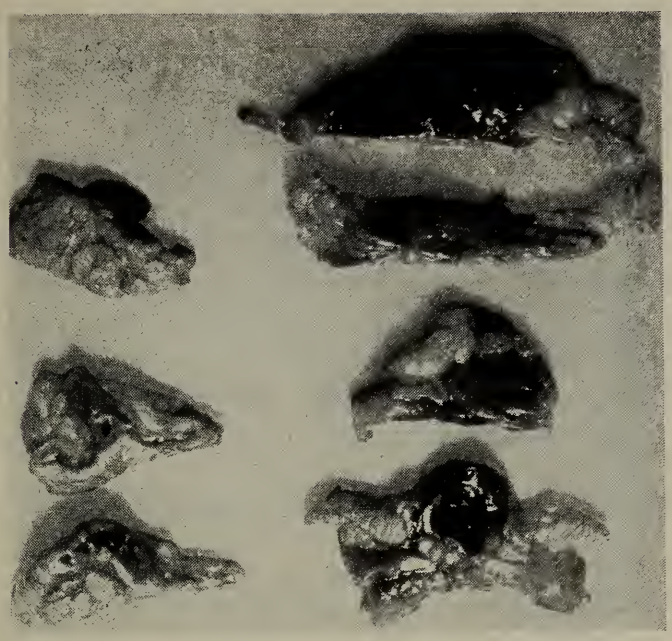

Fig. 1—Cross sections of the adrenal glands. The larger one reveals extensive hemorrhage.

were noted grossly as well as microscopically (fig. 2).

This case was selected for discussion today not only because of its challenging clinical aspects, which Dr. Anderson executed in a most admirable fashion, but because it presented some features which from the standpoint of pathogenesis of lower nephron nephrosis and adrenal hemorrhage are obscure even to the oldest of morphological investigators.

First of all, let us deal with the lower nephron nephrosis. We attribute the kidney lesion, in this case, to the secondary shock resulting from the rapidly developing hemorrhagic infarctions of the adrenals. The common causes of lower nephron nephrosis are: incompatible blood transfusions (hemoglobinuric nephrosis), burns, mercury poisoning, severe acute hemorrhage, eclampsis, septicaemia, crush syndrome, heat stroke, and intoxication by the sulphonamide group of drugs. Except for the latter, scrutiny of this list shows that the common denominator is secondary shock. To reiterate, the pathogensis of so-called lower nephron nephrosis is far from clear. Time and time again, patients die in a state of shock and oliguria from one or more of the various causes listed above and when the kidneys are examined at autopsy we fail to find the gross and microscopic features of classic lower nephron nephrosis. Furthermore, another discrepancy arises. As in this case presented today, the kidneys grossly will reveal nothing other than congestion and yet microscopically present the features of lower nephron nephrosis. Seldom do we grossly see the injected region next to the medulla described by Trueta[1] and referred to as the juxta-medullary shunt.

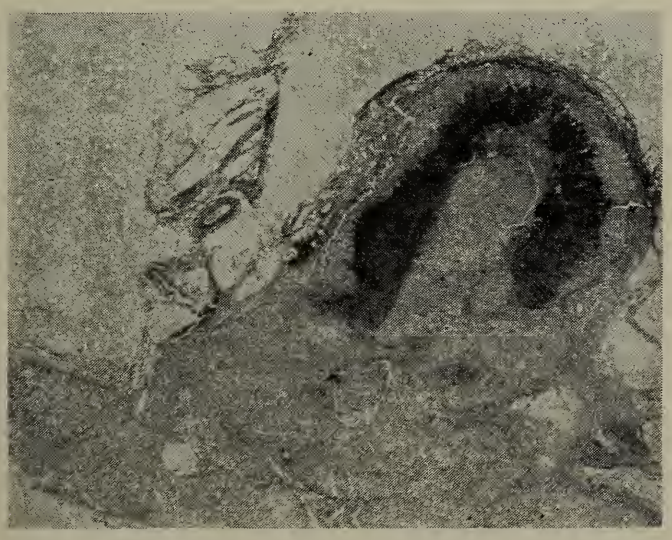

Fig. 2—Section of the left adrenal to illustrate an hemorrhagic infarction involving the medulla and adjacent zona fasciculata. Note the thrombus lying in an adrenal vein in the center of the field.

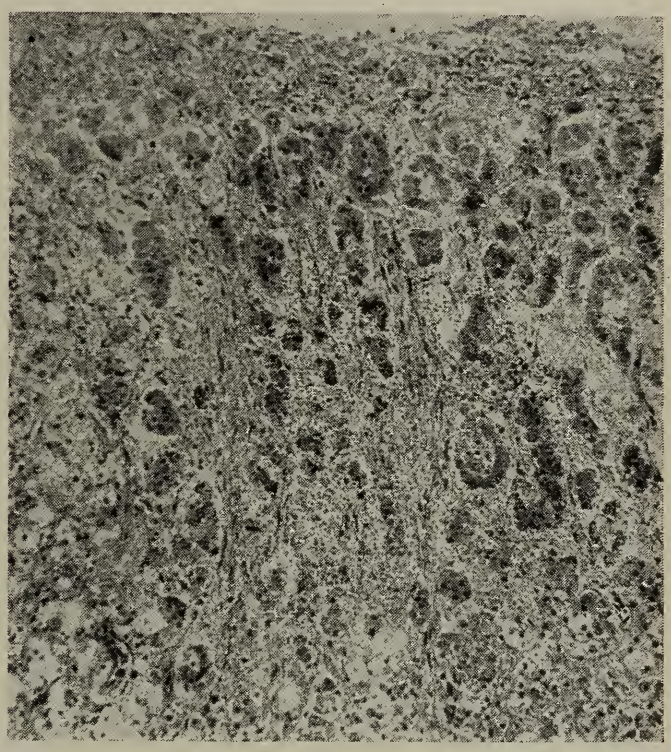

Fig. 3—Adrenal. The zona glomerulosa is indistinct. Loss of polarity of the adrenal cords of the fasicular layer. Patchy necrosis is present.

The term lower nephron nephrosis is without a doubt a misnomer. True, the lower nephron, which comprises the ascending loop of Henle and distal convoluted tubule suffer the "brunt" of the attack, the proximal convoluted tubule may show necrosis.

Grossly, the kidney of lower nephrosis is larger than normal, pale with a thickened, bloodless outer region of the cortex. The juxtamedullary portion of the cortex and pyramids are injected and cyanotic. Microscopically, one sees casts of hemoglobin or heme in the distal tubules and collecting tubules, cloudy swelling, fatty infiltration and necrosis of tubular epithelium, regeneration of tubular epithelium, lymphocytes and edema in the interstitial tissue.

It is our belief that the disturbance in renal function in lower nephron nephrosis is dependent on changes in the afferent and efferent arterioles to the nephron unit. The change is one of calibre of the vessels such as occurs in shock.

Our reason for this is based on a clinical observation. Namely, patients will in shock develop oliguria or anuria for 10-20 hours, then suddenly, without therapy, undergo spontaneous diuresis or normal urinary output. It hardly seems feasible that this mechanism is dependent on regeneration of tubular epithelium. The heme casts seen in the tubules are not abundant enough to cause generalized intrarenal obstruction. The heme casts *per se* have not been shown to induce necrosis of the adjacent tubular epithelium. Lastly, the red cells and protein in the tubules come from the blood in the glomerular capillaries. The mechanism here would be one of vasoconstriction of the afferent arteriole with glomerular hypoxia resulting in increased capillary permeability of the glomerular filter.

Having shed no light on the pathogenesis of lower nephron nephrosis, let us now turn to that of the bilateral adrenal vein thromboses with hemorrhagic infarctions of these glands. Here, again, we feel far from adept to explain the cause of this phenomenon which was the probable cause of the death of the patient.

Blood cultures and blood smears from the heart were negative. In view of the antibiotic therapy, however, this is not surprising. There was no evidence grossly or microscopically of pneumonia, or genitourinary infection. Whenever we are confronted at autopsy with adrenal hemorrhage, septicaemia is our first thought as the etiology. Almost every known bacterium has at sometime or another been incriminated as playing a role. I am sure, however, that we are very capable of missing a focus of infection at autopsy. Certainly, as Dr. Anderson has pointed out, the fever, leucocytosis with shift to the left of the differential Schilling Count, toxic granulation, Döhle bodies, all were highly suggestive of infection.

The second cause of adrenal hemorrhage is adrenal vein thrombosis, which is frequently bilateral. We have often questioned whether or not a large percentage of these cases might not be thromboses, secondary to an underlying infection. It is feasible to believe, I think, that in severe septicaemia we may expect foci of necroses in the adrenal cortex from which venule thrombosis might occur and then extend to involve the larger adrenal veins. The frequently listed causes of adrenal hemorrhage are given in table 1. It is interesting that Wyatt[2] recently reported a case of bilateral adrenal vein thrombosis with infarctions, accompanied by lower nephron nephrosis. No etiology was determined. This was the first case of lower nephron nephrosis associated with adrenal hemorrhage reported in the English literature. Recently, we had a 72 year old patient who fell and sustained bilateral fractures of the wrists and fracture of the arm. One week later she went into shock and died. Autopsy disclosed bilateral adrenal hemorrhage with adrenal vein thromboses. The patient had been on penicillin therapy prophylactically so that autopsy cultures were meaningless. Microscopically, the adrenals in the case today showed indistinctness of the zona glomerulosa. The reticulum framework of the cortex was destroyed. Patchy necrosis was seen here and there. Most of the nuclei of the zona fasciculata were pyknotic and the cells of the zona reticularis were atrophy with loss of lipoid.

TABLE 1

PATHOGENESIS AND ETIOLOGY OF ADRENAL HEMORRHAGE

1. Septicaemia—meningococcus, staphylococcus, influenza virus, etc.
2. Thrombosis with infarction due to circulatory stasis, e.g., cardiac failure, shock.
3. Hemorrhagic diatheses.
4. Burns.
5. Idiopathic.

Table 1—Etioloy of adrenal hemorrhage.

The remainder of the anatomical findings comprised the following: petechial hemorrhages in viscera and brain, vacuolation eosinophils of pituitary, bilateral hydrothorax, healed chronic pyelonephritis, dilatation of pancreatic acini, basophilic (mucopolysaccharide) change of aortic media.

The proposed pathogenesis in this case is shown in table 2.

Table 2
Pathogenesis

? Infection ⟶ Progressive, Bilateral Adrenal Vein Thrombosis with Multiple Infarctions.

↓

Shock ---- Anoxia, Petechial Hemorrhages, Focal Necrosis Liver, Generalized Edema.

—— Lower Nephron Nephrosis

↓

Death

Table 2—Proposed pathogenesis.

Pathological diagnoses:

1. Bilateral adrenal vein thrombosis with infarctions.
2. Lower nephron nephrosis (hemoglobinuric nephrosis).
3. Convolutional atrophy brain.
4. Bilateral basal atelectasis lungs.
5. Acute splenic tumor (acute splenitis).
6. Granulocytic hyperplasis bone marrow.

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PUBLIC HEALTH

Laboratory, Virginia State Department of Health

Intrastate Serodiagnostic Evaluation Study, January 1952

Premarital legislation in Virginia enacted in 1940 requires, as a prerequisite to the issuance of a marriage license, a serologic test for syphilis to be made at a laboratory approved for that purpose by the State Health Commissioner. Additional legislation was enacted in 1950 requiring prenatal tests for syphilis to be made in approved laboratories. Approval is based largely on demonstrated efficiency of test performance. The State Health Department, in accordance with provision of the above legislation, is planning to conduct an evaluation study of serodiagnostic tests for syphilis, to begin about January 15, 1952. All private, semi-private, and public health laboratories within the state which wish to be approved for the performance of premarital and prenatal serodiagnostic tests for syphilis have the privilege of participating in this study.

These studies are conducted in the same manner as the National Evaluation Studies and the standards of proficiency are those set up by the National Committee on Evaluation of Serodiagnostic Tests for syphilis. A brief description of the methods used in previous studies follows.

Specimens of whole blood, half of them from syphiltic and half from non-syphilitic donors, were collected and distributed to the participating laboratories at the rate of ten a day for four days a week until approximately two hundred specimens had been distributed. Each laboratory upon receipt of the blood performed its test (or tests) and sent the results to the central laboratory of the State Health Department for tabulation of sensitivity and specificity ratings.

Blood donors were selected and their clinical status determined by syphilologists of the Medical College of Virginia Venereal Clinic. All blood was collected at the clinic and was distributed to the participating laboratories by the State Department of Health. The Venereal Disease Laboratory of the U.S. Public Health Service and the Central Laboratory of

the State Department of Health acted as control laboratories.

Sensitivity ratings were compiled by giving one credit for each positive result obtained on a syphilitic donor, one-half credit for doubtful and no credit for negative results. Specificity ratings were obtained by giving one full demerit for each positive result and one-half demerit for each doubtful result on a presumably non-syphilitic patient.

These ratings were based on the clinical status of the donors rather than the serological results obtained by the control laboratories. The National Committee on Evaluation of Serodiagnostic Tests for Syphilis considers satisfactory test performance to be a specificity rating of not less than 99 percent and a sensitivity rating within 10 percent of that of the control laboratory.

The purpose of these studies is threefold; one, to evaluate test performance of the laboratories within the State in order to have a sound basis upon which to approve them for performance of premarital and prenatal tests for syphilis; two, to stimulate an interest in better serology; and, three, to aid the laboratories in improving the quality of their test performance.

The necessity for improvement of the quality of test performance is obvious when one considers that in the first intrastate evaluation study (April, 1940) only nine of thirty participating laboratories (30%) achieved the national standards on one or more tests. The results of the last study (May, 1950) in which seventy-eight laboratories participated and sixty-three (81%) achieved saitsfactory results, shows that a very marked improvement has been made. The fact that a standard is offered whereby the laboratory may check its test performance is valuable in itself because it is impossible to know whether one is performing serologic tests satisfactorily unless one has an opportunity from time to time to check that performance with a standard.

It has been our observation that failure to achieve satisfactory ratings is usually due to one or more of the following causes: inadequate equipment, reagents of poor quality, antigen which is not sufficiently sensitive, or to lack of training of the serologist.

The State Health Department wishes to do everything within its power to aid laboratories in improving the quality of test performance. Technicians from the various laboratories are welcome to visit the State Health Department Laboratory in Richmond. Here they consult the chief serologist about their problems, learn the latest technics and become familiar with various kinds of new equipment. If they wish they may perform serologic tests under the supervision of the serologist, and in this way correct their own defects and improve their technic. They may stay as long as they wish.

In the past, this has been of great benefit to the laboratories. For example, in the study of 1948-1949 several laboratories failed to attain ratings high enough to qualify for approval. Most of these serologists came into the Central Laboratory and worked with the serologist until they had solved their problems. In the next study (1950) the ratings attained by these laboratories were exceptionally good.

A serologist from the Central Laboratory will be sent to inspect equipment and to make suggestions for its improvement if a request for this service is made.

Since it may not be generally known that the State Health Department offers these services, and since their benefit is of much greater value to a laboratory before the study is undertaken than after it has failed to achieve satisfactory rating, arrangements may be made now for visiting the State Laboratories by addressing a request to:

Director of Laboratories, Box 1877, Richmond 15, Virginia.

Distribution of blood specimens will begin in January, 1952. Visits to the laboratory should be made sufficiently long in advance to enable one to obtain any new equipment, reagents, etc., in ample time to have them in working order before the examination of check specimens begins.

MONTHLY MORBIDITY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL

	Aug. 1951	Aug. 1950	Jan.-Aug. 1951	Jan.-Aug. 1950
Brucellosis	12	4	54	39
Diarrhea and Dysentery	423	532	1,765	2,708
Diphtheria	4	5	76	102
Measles	163	84	13,681	2,476
Meningitis (Epidemic)	0	6	82	91
Poliomyelitis	55	312	96	550
Rocky Mountain spotted fever	17	21	52	58
Scarlet fever	14	32	702	589
Tularemia	6	4	30	25
Typhoid and paratyphoid	6	16	36	57

MENTAL HEALTH

Joseph E. Barrett, M.D.,
Commissioner, Department of Mental Hygiene and Hospitals

Recreational Therapy at Lynchburg State Colony

At our Lynchburg State Colony every effort is made to use all forms of therapy recognized as standard procedure in the treatment of our patients. During the past five summers we have included in the recreational therapy program at the Colony organized camping parties under the supervision and guidance of the Chaplain's Department. In planning this program it was considered that, although this was to be a recognized therapeutic procedure, it might be carried out without too much regimentation and administrative handling which would be a deterrent to its effectiveness. The following is a resumé of this activity and the results accomplished as reported by Mrs. Raymond Morgan, Chaplain at the Lynchburg State Colony.

The first summer's project was accompanied with caution and anxiety. The camp staff was confident that the program should be free and spontaneous, but how would patients react when accustomed restraints were removed? Maybe some would run away. Because of this and other possible problems the first camping group was restricted to female patients who were carefully screened to eliminate behavior problems and possible elopers. Included in the group were epileptic and mentally defective patients, ranging in age from 17 to 30 years.

The camp was to be a vacation for some who would otherwise have no such opportunity. Believing that one of the principles of life is sacredness of personality, we directed our efforts continuously toward enhancing the dignity of each member of the group. To facilitate this feeling and to promote a sense of "togetherness" staff and patients worked and played together, ate at the same tables and slept in the same dormitories. Inequality of abilities was taken for granted but it was assumed that each had a contribution to make which was needed and wanted by the group.

Freedom prevailed; a minimum of regulations was recognized. Rules grew out of group discussion, and were self-imposed. All were led to understand that they were necessary in order for the group to live happily and comfortably together. The camp schedule was informal and flexible. It included organized and unorganized games, hikes, picnics, swimming, simple handicrafts, dramatizations, story hours, much singing and opportunity to just sit and observe the sights, sounds and smells of the woods. Swimming for the most part meant having fun in the outdoor pool, although some learned to swim and a few to dive. Neither work nor play was compulsory; instead, an effort was directed toward creating an atmosphere in which all would want to share in all activities.

Morale was high at all times. Not one untoward incident occurred. During the week only two girls out of the thirty were taken aside for individual counseling.

It was truly a week full of new experiences. Only one person had been in camp before; few had been in swimming. Sitting, talking, singing and listening to stories around a camp fire was a first experience for most of the group. To be utterly trusted was a rare experience for many. Some of the enjoyments of the week were expressed by the girls this way: It is so good not to have doors locked—to be able to go in and out of doors as you please." "I like to be where folks try to be friendly." "The freedom is wonderful." "It is fun to work at camp." "I like best the camp fires at night—being out of doors when it is dark." "I like the way we go on hikes: we don't have to walk two by two."

The first summer's experiences convinced the camp staff that when patients believed that they are being trusted they have great capacity to carry through. On the basis of this judgment the campers for the next two summers were selected only for physical fitness and included men, women, boys and girls. Several behavior problems were included to see how they would respond to the freer camp environment. In one instance a group of 40 boys, aged seven to eighteen who never go out of doors unattended at the hospital, made up a camping group. It was found that this group required very little more effort

to supervise than any so-called normal group of boys.

During the summer of 1950 a group of forty older women, 40 to 67 years of age, made up a camp unit. None had ever been camping before. Many had not been away from the Colony in years; some not since they had been admitted. Three of these women asked on their second day at camp to be returned to the Colony. The environment was too unfamiliar; they were lonesome. But the others enjoyed it. Even the oldest went on hikes twice a day, splashed in the pool, or watched others doing so; spent hours at handicraft, enjoyed camp fires, and took great pride in keeping the camp clean. Their enjoyment was expressed in such statements as: "Don't this fireplace remind you of home?" etc. Said one to a staff member, "I never dreamed I would ever be sitting next to you eating a meal". Said another, "Do you suppose we could visit that little country church again? It is such a pretty church. You know, that was the first time I have sat in a real church in 13 years!"

At the end of last summer the Lynchburg State Colony Camp closed its fifth annual season. Four hundred and forty patients participated. There were four one-week periods of regular camping, accomodating forty patients each—two weeks for male patients and two weeks for female patients. There were seven one-day picnics; forty patients attended each time.

Camp is no longer a therapeutic experiment at Lynchburg State Colony. It is now one of its accepted efforts toward meeting the needs of its patients.

MEDICAL SOCIETY OF VIRGINIA

Public Relations

In dealing with the perpetual problem of physician-patient relationship, a recent article, reprinted by the American Medical Association, from *American Magazine,* recounts some age-old sources of patients' complaints. Not only does the author reveal these maladies in public relations, but goes on to recognize that a degree of satisfaction has been enjoyed by many of the disgruntled.

Referring to the survey made by Dr. John T. T. Hundley of Lynchburg, the article adopted his fundamentals of patient discontent which were declared to be in part: "money-grabbing doctors"; "overspecialization", widening the cleft between doctor and patient; use of technical terminology in answer to patient's questions; unwillingness by some to make home calls; excessive waiting for appointments. With the core of complaint thus established, the source of satisfaction was sought.

The grievance committee supplied at least a major portion of the answer. By what method could a grievance committee atone for the alleged misdoings of its medical colleagues? With the harm already done, it could only serve as a medium for redress. The dissatisfied could tell their story to an impartial and understanding group. Assuming the grievance justifiable, what avenues of action were advisable as well as effective?

A study of grievance committee files revealed several categories of action taken in response to various complaints. Four general paths of action evolved. Conciliation adjusted some ninety per cent of the largest lament, fees. Warnings by their professional peers sufficed in a number of instances. The strongest sanction would seem to be expulsion from the medical society or a recommendation that the physician's license be revoked. In difficult cases of improper treatment, reparative measures were taken; perhaps a specialist would be called in to advise. Applying these rules of remedy, grievance committees have espoused numerous otherwise strained and unyielding breaches of the doctor-patient bond.

The setup of a grievance committee might follow a general pattern inviting complaints of all kinds from the public. Of course, both patients' and physicians' version of the story should be heard along with a review of other evidence. Many situations will resolve to a simple misunderstanding easily cured when discussed openly.

Pursuant to an established policy, cases in which a malpractice suit has been started will not be con-

sidered by a grievance committee until a decision has been rendered. Seeking to avoid such suits with the attendant, bad publicity, and financial loss, many medical societies urge their members "to report promptly any medical error which may be a potential source of complaint."

Again, unlike a number of references to patients' complaints, the study uncovers that something constructive is being done. It is well to note that the house-cleaning efforts of the medical profession are producing results—results which will in time enhance the important physician-patient relationship.

Reprints of the article referred to above will be sent to the chairmen of grievance committees of compoent medical societies. Copies are also available for members upon request to the Medical Society office.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—Mrs. C. M. McCoy, Norfolk
President-Elect—Mrs. Herman W. Farber, Petersburg
Recording Sec'y—Mrs. L. Benjamin Sheppard, Richmond
Corresponding Sec'y—Mrs. Lemuel Mayo, Portsmouth
Treasurer—Mrs. Kalford W. Howard, Portsmouth

The President's Pin

At the annual meeting of the Woman's Auxiliary to the Medical Society of Virginia in Roanoke in 1947 the late Mrs. E. Latane Flanagan of Richmond made a recommendation, which was accepted by the assembly, that a pin be purchased to be worn by the President of the Woman's Auxiliary to the Medical Society of Virginia during her term of office.

Mrs. Flanagan made a motion that a committee be appointed to consider a design and costs of a pin. Carried. The committee was as follows:

Mrs. P. M. Chichester, Chairman
Mrs. H. A. Latane
Mrs. J. E. Hamner
with Mrs. J. L. DeCormis, Ex-officio.

There was a ruling that the emblem used on the pin worn by the President of the Woman's Auxiliary to the American Medical Association could be used only in connection with National Auxiliary matters.

Many designs were considered and costs submitted. A report was given at the Board meeting on March 1, 1949. Mrs. Reynolds asked for further discussion at the annual meeting.

At the pre-convention meeting in October, 1949, Mrs. Holderby made a motion that the committee be authorized to make the final decision about the design and price of the pin and order the same. Carried.

Mrs. H. W. Rogers made a motion that the main motion be amended to provide for a larger committee to share in this responsibility. Carried.

Mrs. E. Latane Flanagan and Mrs. R. M. Reynolds were added to the committee, and Mrs. Holderby, Ex-officio.

The committee asked for suggestions.

Mrs. Edward Ray spoke of the staff of Aesculapius with its encircling snake which has been adopted as an insignia by the American Medical Association.

As an Auxiliary, we are permitted to use only half of the insignia of the American Medical Association.

The recommendations of the Board concerning the pin were accepted at the annual meeting 1949.

The design accepted by the committee was the triangle of Peyton M. Chichester, Jr., son of Dr. and Mrs. P. M. Chichester of Richmond. Its use was authorized by the President of the Woman's Auxiliary, American Medical Association.

The pin is of platinum. It is an open triangle with the upper half of the Staff of Aesculapius and the encircling snake placed diagonally across, with a medicinal leaf added. There is a three point diamond in each angle. On the upright sides of the triangle are Woman's Aux. — Med. Soc. Va. and across the base the word President. The pin was made by Schwarzschild Bros., Inc., Richmond. It has been worn by Mrs. C. E. Holderby, who presided at the 1950 meeting, and is now worn by Mrs. C. M. McCoy, the present incumbent.

A small pin of the same design can be purchased by the Past-Presidents. The die will remain the property of the Auxiliary.

The chairman of the committee feels that the

triangle is significant of the cooperation of the patient with the physician and God in the art of healing.

Committee

MARIE C. CHICHESTER, *Chairman*
(MRS. P. M. CHICHESTER)

Other members of the Committee are:

MRS. H. A. LATANE *MRS. E. LATANE FLANAGAN
MRS. J. E. HAMNER MRS. R. M. REYNOLDS
MRS. J. L. DECORMIS, *Ex-Officio* MRS. C. E. HOLDERBY, *Ex-Officio*

*Deceased 1950.

Northampton-Accomac Auxiliary.

On July the 10th, a number of members of the Auxiliary enjoyed a delightful outing on the cruiser "Rambler" out of Wishart's Point Yacht Harbor to Assateague Island Coast Guard Station as the guests of Mrs. C. E. Critcher. At the meeting held at this time, the Auxiliary voted to furnish draperies for the Grace Wilkins Holland Memorial Room in the Northampton-Accomac Hospital.

The slate for 1952 officers of the Auxiliary was presented by Mrs. Edmund Henderson, chairman of the Nominating Committee, and was accepted as follows: President, Mrs. John Wise Kellam; vice-president, Mrs. W. L. Cosby; secretary, Mrs. W. Carey Henderson; and treasurer, Mrs. John Rogers Mapp.

CATHERINE R. TROWER,
Chairman Press and Publicity

BOOK ANNOUNCEMENTS

Philosophy for the Common Man. By HEINRICH F. WOLF, M.D., New York. Philosophical Library, New York. 1951. xxxii-189 pages. Price $3.50.

Written by a doctor of medicine for the general reader who is interested in philosophical problems, and not for the professional philosopher, this book approaches these problems from the standpoint of modern science based primarily on the As-If philosophy of Hans Vaihinger. The author feels that the study of metaphysics is not only useless but harmful for the general reader. He therefore touches on aspects of ancient philosophy, continues with a mechanistic explanation of animal and human functions, and then concludes with discussions on free will, the purpose of life, and religion and the philosophy of As-If among other subjects. Dr. Wolf's approach is certainly an interesting one and should prove valuable to those who, like himself, are seeking a more serene outlook on life.

M. A.

Clinical Laboratory Methods. By W. E. BRAY, B.A., M.D., Professor of Clinical Pathology, University of Virginia; Director of Clinical Laboratories, University of Virginia Hospital. Fourth Edition. St. Louis, The C. V. Mosby Company. 1951. 614 pages. With 119 text illustrations and 18 color plates. Price $7.25.

The mere fact that Dr. Bray's Manual of Clinical Laboratory Methods has its fourth edition and was reprinted many times, speaks for itself. The book is used by a large group of people interested in the field of Clinical Pathology. Also worth mentioning is the fact that the book grows and expands with the field which it covers.

The Fourth Edition has 579 pages with many color plates and drawings, 43 new methods and modifications are included in the text, and newer antibiotics are discussed. An excellent cross-index helps to recommend this book as a great aid in troublesome situations which may arise in the performance of routine tests. A list of normal values can be found at the end of the book.

However, we have yet to see a book written to suit all persons interested in the field. We would like to see in the next edition, a chapter explaining the principles of spectrophometry. Blood Chemistry could be enlarged to equal in volume Bacteriology and Hematology.

In general, this book should be recommended for laboratories in small hospitals and doctors' offices for whom it seems to be designed.

H. G. K.

Handbook of Nutrition. A Symposium Prepared under the Auspices of the Council on Foods and Nutrition of the American Medical Association. Second Edition. New York, The Blakiston Company. 1951. xviii-717 pages. Price $4.50.

This is not a handbook in the usual sense of a guidebook or a manual of compiled data. It is a

comprehensive symposium on the present status of nutrition in its broadest sense. Much new information bearing on man's nutritive problems has accumulated since the First Edition of 1943. The Handbook consists of recent papers by leading authorities in all phases of nutrition. They are reprinted from *The Journal of the American Medical Association* with some additions and were prepared under the auspices of the Council on Foods and Nutrition of the American Medical Association.

In reprinting the series in one volume the American Medical Association has done an admirable job and produced a handy and valuable reference work. The 700 pages are divided into four main parts—The Individual Nutrients (including much on their roles in metabolism), Nutritional Needs, Nutritional Deficiencies (including a chapter on Fluid Therapy) and Foods and their Nutritional Qualities. The book is of convenient desk size and will be a ready and authoritative reference to current nutritional knowledge and problems.

L. D. A.

Pioneer Doctor. LEWIS J. MOORMAN, M.D., with and introduction by HENRY A. CHRISTIAN. University of Oklahoma Press. 1951. 252 pp. illustrated. Price $3.75.

From Cousin Henry's delightful introduction to the author's well told pilgrimage to the home of Francis Adams in Banchory, this attractive little book is filled with facts and stories of medical interest, and who is not interested in medicine today. There are stories of frontier life, obstetrical stories, sanatorium stories and Indian stories. The stories are all good, but the frontier stories suffer perhaps from the author's neo-classical diction. This reviewer has the feeling that a Will Rogers or even a "Dizzy" Dean could have told them better.

I was interested to note that my former fellow townsman, Dr. James N. Ellis, founded the American Medical Association of Vienna in the last decade of the 19th century. Dr. Moorman found the headquarters of this Association, with its registration system, its library and sub-post office helpful when he went to Vienna in 1909 for graduate study.

There is a good historical account of the sanatorium treatment of tuberculosis and an excellent chapter on medical education. His description of the patient-physician relationship, which he says must never be lost, can not be improved upon. "It is as fundamental as the family, as sacred as the church, as essential as free speech, and as right as anything in the Decalogue."

M.P.R.

Handbook of Pediatric Medical Emergencies. By ADOLPH G. DeSANCTIS, M. D., Professor of Pediatrics and Chairman of the Department of Pediatrics, Post-Graduate Medical School, New York University-Bellevue Medical Center; Director of Pediatrics, University Hospital, and Gouverneur Hospital, New York City. And CHARLES VARGA, M.D., Instructor in Pediatrics, Post-Graduate Medical School, New York University-Bellevue Medical Center; Assistant Attending Pediatrician, University Hospital and Gouverneur Hospital, New York City. St. Louis, The C. V. Mosby Company. 1951. 284 pages. With 51 Illustrations. Cloth. Price $5.00.

This book as the title indicates is a handbook giving in more or less outline form the therapeutic approach to conditions encountered in pediatric practice which call for rapid, emergency treatment. It does not attempt to be by any means a complete text of pediatrics, but should serve as a source of quick reference to obtain vital information in situations where there is no time for wading through comprehensive textbooks or locating a specific journal one vaguely remembers reading. The material gathered over a period of years, is presented in concise form and contains specific valuable detailed information, such as drug dosage for all age groups.

This book gives a comprehensive list of poisons, their principle clinical effects with antidotes or treatments. Also, a list of common household and commercial sources of poisons is given with their active ingredients. This may at times be invaluable to both doctor and patient when confronted with the ingestion of a product with unknown active poisonous ingredients.

A description of common pediatric diagnostic and therapeutic procedures accompanied by pictures and diagrams occupies one section. This book answers many questions concerned with medical pediatric emergencies which a doctor asks himself in a frustrating acute situation, where the proper course of action alone may be lifesaving. All in all, this to me is a wonderful systematized collection of vital information necessary to the modern practice of pediatrics, and I recommend it as a member of the reference library of the intern, pediatric house officer, pediatrician and general practitioner.

R. F. T.

EDITORIALS

The Doctor's Wife

IF THE physician is the flower of civilization (such as it is) as Robert Louis Stevenson says he is, what shall we say of the physician's wife?

In preparing the series of editorials on "Doctors for whom the public should be thankful" we were impressed by the important role that the wife played in the careers of many of these doctors. One, and by many he was considered the wisest of the thirty-two, did not marry. He lived to be eighty-four. As he approached his 80th birthday he went to Boston to deliver an address on "Medical libraries and their aims" and Cushing had to clean a number of spots off his waistcoat. This is the only published evidence that "Popsy" Welch ever needed a wife.

One married after he had become famous. His wife was more interested in dancing and society than she was in making a home for him. In a few years they separated and finally were divorced. Later he married a home loving girl and was very happy. Koch was the only one of the thirty-two who behaved like the popular notion of a genius. His first wife bore him a daughter and died several years later. His second wife was devoted to him and gave him a microscope. When he divorced her he received a cold shoulder in Berlin and his former friends in Clausthal demolished the tablet they had placed on his boyhood home. He brought his third wife to the United States in 1910 for the International Congress in Washington and Trudeau amusingly said of the marriage: "You could not blame Koch, but what on earth could this young woman see in him?"

Mettauer and Brown-Sequard also married three times, but these six marriages were all terminated by death. The remaining 27 medical geniuses married only once, but the married state lasted through a long life. For the most part they were happy marriages. Mme. Bernard was jealous of her husband's work. She had the idea that if he were in general practice she would have more money to spend on the pleasures of society, and her daughter reflected her attitude by founding an antivivisection society. Emmet, Oliver Wendell Holmes, Dr. Joseph L. Miller, Sir Ronald Ross and Lord Lister survived their wives. The others enjoyed the state of matrimony the rest of their lives. Kelly and his wife died within a few hours of each other and the Halsteds within a few months. This is a better record than you would expect from vital statistics, for even as late as 1948 life expectancy for the husband was 40 years and for the wife 49 and their joint expectancy of life was 36 years. At the turn of the century, joint expectancy of life was only 28 years.

A doctor's life is a hard one with long and irregular hours and duties that are exacting and nerveracking. To make a home for him is a real job. It is significant that none of the wives in this study was jealous of her husband's patients.

Lady Osler was a beautiful example of uxorial helpfulness. In background and experience she was well qualified for she was a descendant of Paul Revere and was the widow of a famous Philadelphia physician when she married the lovable Osler. The ideal home that she created for him, first at 1 West Franklin Street in Baltimore and next at 13 Norham Gardens in Oxford, was known all over the world for its hospitality. During the first World War the Oxford home was familiarly called the "Open Arms." Visiting doctors, especially if they were from the United States or Canada, were always welcome, but they never interfered with Sir William's work. Whether they dropped in for tea, were invited for dinner or were house guests, Lady Osler saw to it that they did not break into Osler's routine. After a short but brilliant postprandial conversation Sir William would quietly slip away to his study and his lady would carry on so efficiently that he was not missed.

Laetitia Bredow, the daughter of a Stetkin physician, was reared in the Teutonic

atmosphere where *Kinder, Kuchen und Kirche* were the *summum bonum* of wifely virtues. She must have had a hard time making a home for Kelly with his snakes and other unattractive objects of his natural science collections, to say nothing of his innumerable books that overflowed all parts of the house. However, she succeeded, bore him nine children and raised all and, when Kelly died at the ripe old age of eighty-five, she followed him in a few hours. Their joint funeral was attended by eight of the nine children. The ninth was serving his country in the South Pacific.

What shall we say of the home making efforts of Caroline Hampton, a niece of General Wade Hampton of South Carolina, who married the shy and exacting Halsted in 1890. At that time he was 38 years of age, and set in his ways—and what ways! He had his shoes made in England and his shirts laundered in Paris. He was extremely critical of the behavior of people although not in the least intolerant, and he was witty and sarcastic. When he gave one of his exquisite dinners, he would select the coffee beans at the table, and grind them and brew the coffee himself. His wife would spend the next day in bed with the migraine. Suffice it to say that she made a success of her marriage, for they were devoted to each other, but the effort was exhausting and, when Halsted died in 1922 after 32 year of marriage, she died two months later of pneumonia.

Not infrequently the exacting task of home making was complicated by chronic illness. Theresa Jones, the boyhood sweetheart of Marion Sims, was the daughter of a wealthy physician in South Carolina. Thoroughbred is the only adjective that adequately describes her. Against her mother's wishes she married Sims, a poor doctor who began his medical life as a failure. In Alabama he had several attacks of malaria and just as he was attaining success, he developed a severe avitaminosis which modern experts think was pellagra. At least he had an uncontrollable diarrhea and mental symptoms which resisted all treatment. The only thing that benefited him was a change of climate. Theresa did not hesitate. She sold out everything in Montgomery and moved North. When they reached Philadelphia, Sims was not expected to live, and he wrote his epoch-making paper on vesico-vaginal fistula in a Philadelphia boarding house. It was published in the American Journal of the Medical Sciences in 1852. When his health improved they moved on to New York, and there, to make ends meet, she took in roomers. When success came Sims went to Europe where he practiced on queens and duchesses, and taught the European surgeons how to cure vesico-vaginal fistula. Theresa followed him to Paris and was as at home in the brilliant court of Napoleon III as she had been in her native South Carolina. She kept her mercurial husband on an even keel and, when Sims reached the end of his long road, they were still sweethearts as they had been in the beginning. Truly she deserved the Distinguished Service Medal in Medicine.

At the end of World War I, Harvey Cushing was seriously ill and developed thrombosis of both femoral arteries. Ever afterward he had trouble with his feet and legs, and at autopsy, the femoral arteries were found to be completely occluded. Nevertheless, Cushing continued at his accustomed furious pace and died of heart disease when he had completed his Biblical allotment of three score and ten years. How much Kate Crowell Cushing had to do with this outcome, there is no direct testimony. Undoubtedly she made his path smooth these many years.

In the case of George Minot and his diabetes, we have the testimony of his physician, Dr. E. P. Joslin. Marian Linzee Weld married Minot, in 1915. In 1921 it was discovered that he had diabetes. At that time there was no insulin treatment. "He never could have carried on without the support he received from his wife who for twenty-eight years softened the blow. It was she who protected every minute of his existence, his going out and his coming in. It was she who weighed his food and

saved him from worry of the management of his disease, and she did it all in so unobtrusive a manner that neither he nor others realized it."

Emmet who lived to ninety-one complained bitterly of loneliness when he was left a widower in his last years. And so it was with the other wives who made the lives of their self-sacrificing husbands happy ones.

Henry Asbury Christian

1876-1951

IN THE death of Henry Asbury Christian, Virginia has lost a distinguished son and the world a great doctor. Even in his college days Henry Christian was outstanding. He moulded college opinion to an unusual degree. His tall, upstanding figure, his pleasant smile, his quiet dignity, and his sound common sense commanded respect all over the campus. Whenever a question arose the boys wanted to know, "What does Henry think about it?"

Henry Christian was born in Lynchburg, February 17, 1876, the son of Camillus and Mary Elizabeth (Davis) Christian. He was a lineal descendant of Thomas Christian who patented land in Virginia in 1657. He graduated from Randolph-Macon College in 1895 with the degrees of A.B. and A.M. and from Johns Hopkins in 1900 with an M.D. degree. He also earned an A.M. degree from Harvard in 1903. Jefferson Medical College and the University of Michigan conferred upon him the honorary degree of Sc.D. and Randolph-Macon, Western Reserve and the University of Western Ontario the honorary degree of Doctor of Laws.

Upon leaving Hopkins he followed the general pattern set by his great teacher, Sir William Osler, becoming first a pathologist, then a teacher of medicine, having several diseases—Schüller-Christian and Christian-Weber diseases—named for him, and finally, establishing a great teaching hospital, the Peter Bent Brigham Hospital. In this undertaking he was associated with Harvey Cushing, he as physician-in-chief and Cushing as surgeon-in-chief. Under the influence and guidance of these illustrious teachers the Brigham became one of the great hospitals of the world.

Dr. Christian's first position in Boston was assistant pathologist at the Boston City Hospital, later becoming assistant visiting pathologist. He was also assistant pathologist at the Children's Hospital and instructor in pathology at Harvard. From 1908 to 1912 he was dean of the faculty of medicine of Harvard and in 1908 he became the Hersey professor of the theory and practice of physic. He retired from this professorship in 1939, but was recalled in 1942 on account of the war. He was also clinical professor of medicine (1943) at Tufts, and physician-in-chief at the Carney Hospital (1907-12). He was a major in the medical reserve Corps of the U.S. Army from 1918 to 1921 and for one year was resident chairman of the division of medical sciences of the National Research Council.

At the Centennial Session of the American Medical Association, the House of Delegates awarded this eminent Virginian the Distinguished Service Medal for scientific advancement in the field of medicine today. Among his other notable honors are the presidency of the American Society for Clinical Investigation (1919), that of the Interstate Postgraduate Medical Association of North America (1931), and of the Association of American Physicians (1935). The *Monthly* is proud to number him among its outstanding contributors.

Dr. Christian died of heart disease at Whitfield, New Hampshire on Friday, August 24th and was buried from the Church of Our Savior in Brookline, Massachusetts, August 27th. He leaves a host of admirers among Virginia physicians.

SOCIETY PROCEEDINGS

The Fourth District Medical Society

Met August the 29th, at the Masonic Lodge in Lawrenceville, under the presidency of Dr. L. H. Bracey of South Hill. Papers were presented by Richmond doctors as follows:

Backache—R. D. Butterworth, M.D.

The Nervous Patient—W. T. Thompson, M.D.

Poliomyelitis—Lee E. Sutton, Jr., M.D.

A business session followed, after which those present enjoyed a cocktail party and dinner. There was a Round Table discussion after dinner.

The meeting was sponsored in conjunction with the Department of Clinical and Medical Education of The Medical Society of Virginia. Dr. James A. Thweatt of Petersburg is secretary-treasurer, and Dr. A. Tyree Finch of Farmville chairman of the Steering Committee.

Joint Meeting

The Mid-Tidewater and Northern Neck Medical Societies held another joint meeting, September 26, at the Tappahannock Yacht Club. This was under the auspices of the Department of Clinical and Medical Education of The Medical Society of Virginia. Papers on the program were given by members of the staff of the Medical College of Virginia and were:

The Neurological Examination—Weir M. Tucker, M.D.

The Office Regulation of New Diabetics—William R. Jordan, M.D.

The Treatment of Hay Fever and Asthma—M. E. B. Owens, Jr., M.D.

Convulsions—Weir M. Tucker, M.D.

The Treatment of Diabetes with Infection—William R. Jordan, M.D.

An intermission was taken at 5:30 for cocktails and dinner.

NEWS

The 100th Anniversary of Dr. Walter Reed's Birth

Was celebrated at Gloucester, on September 13, when a number of people gathered to pay tribute to the conqueror of yellow fever. Business houses at Gloucester Courthouse and the Botetourt High School closed at noon that day to honor Dr. Reed. "Belroi", the birthplace of Dr. Reed was open all day but the exercises were held on the grounds of the High School because of limited parking space at "Belroi".

The program opened with a band concert on the school lawn at 1:15 p.m. by the Fiftieth Army Band of Fort Monroe. At two o'clock, the address of welcome was given by John Tabb DuVal, Commonwealth's attorney of Gloucester and former member of the Virginia House of Delegates. State Senator Marvin Minter of Mathews introduced the guest speakers, Dr. Wyndham B. Blanton, physician and historian of Richmond, and Major-General Paul H. Streit, commanding general of the Army Medical Center in Washington. Among the guests, in addition to members of Dr. Reed's family, was Dr. Robert P. Cooke of Lexington, who was one of the group who volunteered for Reed's experiments in Havana.

Greater Accuracy in Laboratory Diagnosis.

The College of American Pathologists announces the organization of a program to improve the efficiency and to increase the uniformity of medical laboratory analyses.

At first this program will function primarily in supplying highly standardized and very accurate solutions that will enable small and large pathology laboratories to develop and maintain uniformly reliable test solutions in the field of chemical determinations. By checking solutions prepared by their own technicians against the standard solutions supplied them, directors of medical laboratories can thereby increase the reliability of their medical tests.

The recent distribution of standardized dextrose and nitrogen solutions to 1450 member pathologists (who represent about 80 per cent of all certified pathologists) actually marks the initial step in the de-

velopment of a comprehensive program for standardization of laboratory procedures.

State Health Commissioner.

Dr. Mack I. Shanholtz has been appointed by Governor Battle to succeed Dr. L. J. Roper deceased, as State Health Commissioner, effective October 1, 1951. Dr. Shanholtz is a graduate of the University of Virginia, Department of Medicine, in 1934, and later took his master's degree in public health work. He was connected with the Virginia State Health Department for several years before going to Oklahoma where he became director of the Seminole County health department and assistant professor of preventive medicine and public health at the University of Oklahoma School of Medicine.

Dr. A. L. Carson, Jr., has been designated to fill the vacancy created by the resignation of Dr. J. C. Neale, Jr., to serve as interim Director of the Division of Local Health Services until a permanent appointment can be made.

The Division of Specialized Medical Services will continue to be directed by Dr. Carson with the exception of the Bureau of Maternal and Child Health, the activities of which will be directed by Dr. L. L. Shamburger during this period.

The Post Graduate Clinical Sessions,

Sponsored by The Virginia Society of Ophthalmology and Otolaryngology, will be held in Richmond, at the Baruch Auditorium of the Medical College of Virginia, November 27, 28, 29 and 30, 1951. The first two days are for otolaryngology and the remaining two days for ophthalmology.

For further information inquiries may be addressed to P. N. Pastore, M.D., Chairman, Box 25, Medical College of Virginia Station, 1200 East Broad Street, Richmond 19.

Dr. J. C. Neale, Jr.,

Formerly director of Local Health Services with the State Department of Health, recently tendered his resignation and has accepted a position with the Veterans Administration Hospital at Mountain Home, Tennessee, where he will practice clinical medicine.

The American College of Chest Physicians

Will hold its Interim Session at the Ambassador Hotel, Los Angeles, on December 2 and 3, 1951. On December 2, a scientific session will be presented sponsored by the California Chapter of the College, including round table luncheon discussions and an x-ray conference. A banquet will be held in the evening. The Board of Regents of the American College of Chest Physicians will meet on December 3, as well as various councils and committees of the College.

Dr. Edward W. Hayes, Monrovia, California, is chairman of the general arrangements committee for the Interim Session of the College, and Dr. Alfred Goldman, Beverly Hills, is chairman of the scientific program committee.

The Piedmont Proctologic Society

Held its annual August meeting in Asheville, N. C., at the Battery Park Hotel. Dr. C. Ross Deeds of Hendersonville, N. C., president, presided over the business session and the election of officers for the coming year. Those elected were President, Dr. J. Milton Stockman of Knoxville, Tennessee; Vice-President, Dr. Charles S. Drummond of Winston-Salem, N. C.; and Secretary-Treasurer, Dr. B. Richard Jackson of Raleigh, N. C.

During the scientific session, the following papers were presented; "The Incidence of Postoperative Complications in Anorectal Surgery", by Dr. B. Richard Jackson, "Anesthesia in Proctologic Surgery", by Dr. William Galvin of Emory University Medical School, Atlanta, Ga., and "The Reduction of Postoperative Pain after Rectal Surgery", by Dr. Edgar Boling of Atlanta, Ga.

Parke-Davis Moves Latin America Headquarters.

W. R. Jeeves, director of overseas operations for Parke-Davis and Company, announces the establishment of a new Latin-America headquarters in the recently created free zone at Colon, Panama. From here, the Company will serve 14 Spanish-speaking countries, excluding the areas served by the branches at Buenos Aires, Rio de Janeiro, Mexico City and Havana. Edward Castano, who has been New York manager of Parke-Davis' Inter-American Corporation, will move to Colon in October and direct the new headquarters. Several key people will be transferred with him and they will train others who will be citizens of Panama and other Latin-America countries. About 30,000 physicians are to benefit from the new center.

Dr. Waverly R. Payne,

Newport News, was among those recently appointed by Governor Battle to the Board of Visitors of the Medical College of Virginia.

Dr. Charles R. Woolwine,

Blacksburg, retired September 1 as the Virginia Polytechnic Institute health officer after twenty-three years of service to that institution. He plans to devote his time to the raising of cattle on his 160-acre farm.

American Medical Association—Winter Session.

Postgraduate study primarily designed for the general practitioner will be the theme of the 1951 Clinical Session of the American Medical Association to be held in Los Angeles, December 4 through 7. However, subjects of interest to the specialist will also be presented. Practical clinical discussions, scientific exhibits and general lectures on basic problems are planned.

Color television to demonstrate surgery, clinical treatment and examination procedure will be one of the highlights of the convention. The scientific and technical exhibits will be interesting and instructive and will be located in the Shrine Convention Hall, adjacent to the Al Malaikah Temple, where the lectures, clinical presentations, television reception and motion picture showings will take place.

Special interesting and diversified activities have been planned for physicians' wives as well as for the doctors.

More than 2,000 hotel rooms have been reserved for the session. Doctors, however, are urged to make their hotel reservations in advance by writing to Chairman, American Medical Association Subcommittee on Hotels, 1151 South Broadway, Los Angeles 15, Calif.

The American Association of Obstetricians, Gynecologists and Abdominal Surgeons

Held an instructive and pleasant meeting at Hot Springs, Va., September 6-8, under the presidency of Dr. James K. Quigley of Rochester, N. Y. At the close of the meeting, Dr. Leroy A. Calkins, Kansas City, Kansas, succeeded to the presidency. Others named to serve with him are: President-elect, Dr. Nicholson J. Eastman, Baltimore; treasurer, Dr. Frank R. Smith, New York City; secretary, Dr. William F. Mengert, Dallas; and assistant secretary, Dr. Frank R. Lock, Winston-Salem, N. C. The 1952 meeting will also be held at Hot Springs, the first week in September.

Dr. William Dunn Walker,

Class of '44, University of Virginia, Department of Medicine, after some time in Honolulu, is now located at 613 Grant Street, Charleston, West Virginia.

The American Dermatological Association

Again offers a prize of three hundred dollars for the best essay submitted for original work, not previously published, relative to some fundamental aspect of dermatology or syphilology.

Manuscripts typed in English with double spacing and ample margins as for publication together with illustrations, charts, and tables, all of which must be in *triplicate,* are to be submitted not later than December 1, 1951. They should be sent to Dr. Louis A. Brunsting, Secretary, American Dermatological Association, 102-110 Second Avenue, Southwest, Rochester, Minnesota.

The essays are judged on the following considerations: (1) originality of ideas; (2) potential importance of the work; (3) experimental methods and use of controls; (4) evaluation of results; (5) clarity of presentation; (6) historical background; (7) bibliography.

Further information regarding this essay contest may be obtained by writing to the secretary of the Association.

Medical College of Virginia News.

Dr. Paul S. Larson, research professor of pharmacology at the Medical College of Virginia and pharmacologist for the American Tobacco Company Research Laboratory, was one of the invited speakers at the American Chemical Society Jubilee in New York City in September. He presented a paper on the 6th in the symposium on the chemistry of tobacco entitled "Present Knowledge Concerning the Metabolism of Nicotine by the Animal Body and the Nature and Action of Tobacco Smoke Irritants". Immediately afterwards he and Mrs. Larson sailed for Europe. On September 20, Dr. Larson read a paper entitled "Studies on the Metabolism of Nicotine by the Animal Body" at the World Tobacco Congress in Amsterdam, Holland.

At the 12th International Congress of Pure and Applied Chemistry in New York, September 12, Dr.

R. Blackwell Smith, Jr., dean of the School of Pharmacy and associate professor of pharmacology, presented a paper titled "Toxicological Studies on the Zinc and Disodium Salts of Ethylene-bis-dithio-carbamates". His research associates in this work were Doctors J. K. Finnegan, P. F. Sahyoun, H. B. Haag and Paul S. Larson..

Doctors G. Watson James, III, and Lynn D. Abbott, Jr., are authors of a paper which appeared in the July number of PROCEEDINGS OF THE SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE. Their report has to do with the "Effectiveness of Thiocyanate Analog of Vitamin B_{12} in Pernicious Anemia."

The Annual Postgraduate Course in Diseases of the Chest,

Sponsored by the Council on Postgraduate Medical Education and the New York State Chapter of the American College of Chest Physicians, will be presented at the Hotel New Yorker, New York City, November 12-17, 1951.

This course will emphasize the recent advancements in the diagnosis and treatment of chest diseases. The course is open to all physicians, but the number of registrants will be limited. Tuition fee is $50.00; applications will be accepted in the order in which they are received by the American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

Situation Wanted.

Young physician desires assistantship with general surgeon or general practitioner doing surgery; will consider general practice assistantship without surgery; eastern Virginia only. Write "Eastern Virginia", care Virginia Medical Monthly, 1105 West Franklin Street, Richmond 20, Va. (*Adv.*)

Wanted Doctor

At once for a small hospital in Southwest Virginia —either general practitioner or surgeon. Salary $1,000.00 per month, with maintenance for single man. Write "Hospital in Need", care this journal at 1105 West Franklin Street, Richmond 20. (*Adv.*)

Wanted—

Medical-Surgical partnership or location having or planning community hospital; will consider private hospital partnership. Write "Partnership", care this journal, 1105 West Franklin Street, Richmond 20. (*Adv.*)

OBITUARIES

Dr. Moses Benmosche,

Well known surgeon of New York City, died at his home there on September 4, after a short illness. He was born in London but studied medicine at the Medical College of Virginia, from which he graduated in 1904. After practicing in several places, he located in New York City in 1920, where he had been the recipient of many honors. He had been a member of The Medical Society of Virginia since 1912. His wife and two sons survive him.

Dr. William Warren Sager,

A surgeon at the McGuire Veterans Hospital, Richmond, died September 10, after a short illness. He was born in Shenandoah County, this State, fifty-three years ago, and received his diploma in medicine from George Washington University, Washington, in 1922. From 1929 to 1949 he was associate professor of clinical surgery at his alma mater. During World War II, he was chief of a general surgical section at the Navy Medical Center, Bethesda, Maryland, and later served on a Navy hospital ship. He joined the staff at McGuire's in 1949. He is survived by his wife and three children.

Dr. Thomas E. Knight,

Of Farmville, died August 16, at the age of forty-eight, after a short illness. He was a graduate of the Medical College of Virginia in 1929. He had practiced in Farmville since 1930. During World War II, he served in the Army Medical Corps.

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GUEST EDITORIAL

The Need for "Heart Specialists"

ANGIOCARDIOGRAPHY, cardiac catheterization and multiple leads in electrocardiography with their interpretation by analytical geometry have combined to fill with humility the soul of the physician who was graduated before World War II. His humility may at times become so deep that he can almost agree with the post-war graduate that he knows nothing at all about the heart.

How much of this inferiority complex is justified? What is necessary to make a reliable diagnosis of heart disease?

In the first place, in most cases the history is the most important single factor in making the diagnosis. The examiner must always take a careful history. Paul White has said that if he had to choose between an assistant taking the history and himself examining the patient, and White taking the history with the assistant making the physical, White would take the history. He greatly preferred, if he were to accept the responsibility for the patient, to do both.

To take a good history one must be first of all a *doctor*. Nothing is more to be deplored than to hear a third year student announce that he is going to be a "heart specialist" unless it is to see him allowed to continue his training with no exposure to other subjects.

Is the "shortness of breath" the woman complains of merely the sighing type of respiration characteristic of psychoneurosis, especially in fat middle-aged women with tight girdles? A stomach full of air may produce discomfort that the kind of patient who swallows air excessively will attribute to her heart. Is it hysterical hyperventilation? Does he wheeze? Does he wheeze all the time or only when he tries to sleep with a single pillow?

Or is it the real dyspnea of effort? How much effort is necessary to provoke it? Is less effort required now than six months or a year ago? How much physical activity does he engage in? Many people, especially among those over 40, don't enjoy exercise! Would he do more if he could?

How does he sleep? Can he sleep flat? Has he used two pillows for years? Does he have night starts? Swineford has distinguished two kinds of "cardiac asthma": in one the patient wakes with a start, his chest full of moisture and not a wheeze to be heard; in the other, wheezes obscure moisture, but no wheezes will be heard in the daytime. Both need dehydration, but the second also needs a plastic pillow case. Some persons wake up at night for no better reason than that they went to bed worrying. Does he, between the time he turns off the light and the time he falls asleep, feel his heart "stop for a second", or perhaps "turn over" or suddenly give a single beat "that shakes the whole bed"? Does his heart sometimes abruptly begin to race and quiet down with equal suddenness or does it slow down imperceptibly?

Has he ever noticed any swelling around the ankles? When? Was there any swelling around the eyes? Does his occupation keep him on his feet relatively motionless all day? Is the swelling only present in hot weather? When was the last time his urine was checked?

Does he have chest *pain*? Where is it? Pain over the apex is almost always *not* associated with the heart. Does it radiate? What brings it on? Has he ever suffered agonizing chest pain for hours, accompanied with drenching night sweats and, often, restlessness?

Has he ever had rheumatic fever? It is well to use synonyms, and to ask about nosebleeds, repeated sore throats, and other relevant symptoms. Has he ever had syphilis? Is there a family tendency to high blood pressure, strokes, or sudden death? Has his own blood pressure ever been found high? When was it last taken?

How is his digestion? Does he ever vomit? Has he ever passed tarry stools? Suffered with bleeding piles?

Has he lost weight? Is he very emotional? Has he always been a worrier or did he just a few months ago for the first time in his life become very nervous, with tremor and excessive appetite, weakness and diarrhea? Does she menstruate excessively?

These questions are, of course, not all that should be asked. In the individual case, the doctor may find clues to lead him on to many others. But by the time the history is completed, if the doctor has not arrived at a tentative diagnosis he should at least know what sort of a person he is dealing with.

The man who begins the examination of a patient by slapping his stethoscope over the apex of the heart betrays he knows little about the heart. The first thing he should do is to look his patient over. Is he pale? If his hemoglobin is less than 8 gm., the least exertion may exhaust him, but he can probably sleep without a pillow. Or is he plethoric? Is cyanosis or clubbing present? Is he very fat? Has he lost weight rapidly? Does he have a stare or a tremor? Are varicose veins responsible for swelling of his legs? Or tight garters? Do large veins converge on the navel? Is there fluid in his belly? Is the liver enlarged? Is there tenderness along the right costal margin? Is there a mass arising from the pelvis to be felt in the lower abdomen? Is splenomegaly or lymphadenopathy present?

In the conjunctivae or retinae it may be possible to find the tiny hemorrhagic emboli characteristic of subacute bacterial endocarditis. Lemon sclerae may evidence pernicious anemia or the sclerae may be bile-stained. Funduscopic examination is of greater value in diagnosing the severity of hypertension than a single blood pressure determination. Are the pupils normal?

Is there a precordial thrill or abnormal pulsation over any of the arteries? Is the heart enlarged? Fluoroscopic examination is of great help. When the patient is under thirty, a heart normal in size and contour, it is pretty safe to say is a normal, healthy heart; in a middle-aged person however, the chances are only two to one that a heart that looks all right is as good as it looks.

Books have been written about auscultation. Suffice it here that it is often possible to diagnose the type of irregularity by this method, as well as to determine accurately the presence of valvular disease. An electrocardiogram will not determine the valve involved; indeed it is of little use in chronic valvular disease. It must be added that, in school children at least, only about one murmur out of ten is important, and not

more than one of the others is worth periodic check-ups. The presence of a murmur then is *not* an indication for digitalis.

While the importance of taking the blood pressure has been exaggerated, it should always be done.

An iatrogenic cardiac neurosis is very hard to treat. And most of all cardiac neuroses are caused by a doctor who may have appeared to the patient uncertain as to the diagnosis or seriously concerned over his condition; or the patient may have misunderstood something he said. It is also possible the doctor may have been mistaken: the error of attaching importance to a normal variation from the usual electrocardiogram is much commoner than the error of overlooking something of significance. The most difficult type of case is one in which there is actual heart disease complicated by severe neurosis. Such cases are not uncommon. And often the neurosis causes more trouble than the actual cardiac lesion.

There is at least one doctor in the United States who still delivers cataracts and babies with equal aplomb. But it is likely that a man whose interests are not so wide will ruin fewer eyes and fewer perineums. By that same token, one who limits his activities to internal medicine may handle certain cases more efficiently than one whose horizon is unlimited.

Examination of the blood and urine should always be done, and such examinations can be done by any physician. An x-ray of the chest or, perhaps better, a fluoroscopic study is desirable.

The question of an electrocardiogram arises in almost every case of heart disease, real or otherwise. If the patient is greatly worried over his heart, though he is perfectly sound infratentorially, a tracing is always indicated but if the easy exhaustion is the result of acute leukemia or a bleeding fibroid it is hardly necessary. There is a great deal to be said however, for routine electrocardiograms in persons over 45. Tracings are useful in the management of active rheumatic fever and coronary disease. In these conditions serial tracings are vastly more important than single ones. The first one taken on a rheumatic young person may appear within the limits of normal until compared with one taken several months after he has recovered. Similarly a cardiogram on a man of 60 which appears alarming may be unchanged after ten more years of productive life.

In this day of successful correction of several cardiac anomalies, and the dawning of the day of successful operations on the valves themselves, one owes it to a child handicapped with congenital heart disease, to send him to a medical center where specialists can do every type of examination possible to determine whether or not he is a good candidate for operation. This does not mean that every child with a heart murmur need be so referred.

L. Minor Blackford, M.D.

Dr. Blackford is a graduate of the University of Virginia, Department of Medicine, and is practicing internal medicine in Atlanta, Georgia.

A BRIEF HISTORY OF THE MEDICAL SOCIETY OF VIRGINIA AND ITS FUNCTIONS*

C. LYDON HARRELL, M.D.,
Norfolk, Virginia.

Members of The Medical Society of Virginia, Invited Guests, Ladies and Gentlemen:

I wish to thank you for the honor and privilege of being permitted to serve you as President during the past year. This year has been a hard and trying one, but it has brought pleasures and experiences that I will never forget. It has not been a full time job, but it certainly has been an everyday job. One of the duties of the retiring President is to deliver an address on the opening night. I have chosen as my subject, "A Brief History of the Society and its Present Functions."

The object of any medical society is to bring its members together for a better understanding of each other, to promote public health, to collect and disseminate medical knowledge, and to help each other in every way to better serve his community and mankind. Every physician, as soon as he locates in practice, should join his local and state Medical Society and the American Medical Association. He will not only help himself but also will help those that are already members to do a better job.

On December 15, 1820, The Medical Society of Virginia was first organized by a group of seventeen physicians from Richmond and Manchester, now "South Richmond". Dr. James McClurg, of Richmond, was elected as the first president. The first charter of The Medical Society of Virginia was passed by the General Assembly of Virginia, January 2, 1824. This charter permitted the Society to charge admission fees and annual dues and sue for same, if not paid. So far as I know, this privilege has never been exercised. It also permitted the Society to buy and own real property for its personal use. It also gave authority to sublet a portion of the property not in use, provided the net income does not exceed two thousand dollars per annum over a period of 10 years.

The Society met regularly until November 1824, at which time it passed into a state of coma; cause unknown. According to Dr. Blanton, on December 27, 1841, seventeen years later, the Society was revived, the old constitution readopted, and new officers elected. It continued to function until 1859 when the Society had another period of lethargy, probably due to a resolution advocating a board of medical examiners. (For a more detailed description see Blanton's "Medicine in Virginia in the 19th Century".) However, on November 2, 1870, the local societies of Lynchburg, Richmond, and Abingdon held a convention and reorganized The Medical Society of Virginia and on January 14, 1871, another charter of incorporation was granted. The only difference between this charter and the first charter is that the word "The" is a part of the title and the letter "T" should be a capital. We have been working under this charter since 1871, though December 15, 1820, is the date of the official seal.

Certain members of this Society have always stood for high standards in scholarship and training. As early as 1851 Dr. Goodridge A. Wilson, of Richmond, advocated before The Medical Society of Virginia the creation of a board of medical examiners. This was a frequent and heated question of debate for many years with frequent requests to the State Legislature to pass a Medical Practice Act. The first bill was passed in 1884. That following November 15 the first Virginia State Board of Medical Examiners was organized in Richmond. The first examination was held April 8, 1885. From this time on, it has been the purpose of The Medical Society of Virginia to maintain a high standard of education and requirements of its membership and to approve only those who are graduated from grade A schools.

If I had to mention any one man who had been more influential and who had given more service in making the Society a success, I would name Dr. Landon B. Edwards, of Lynchburg, later of Richmond. Dr. Edwards was elected secretary of the Society in 1871 and served forty-two years. He was succeeded by his daughter, Miss Agnes V. Edwards, who was secretary for twenty-six years. Miss Ed-

*Address of the President before The Medical Society of Virginia at its annual meeting at Virginia Beach, October 7-10, 1951.

wards has been with the Society thirty-two years. At present she is acting as Managing Editor of the Virginia Medical Monthly. The membership of the Society owes a debt of gratitude and thanks to these two people for their long terms of service and untiring efforts in helping to make The Medical ical Society of Virginia the great success that it is.

The Virginia Medical Monthly was started by Dr. Edwards in 1874, as a private enterprise. It was sold to The Medical Society of Virginia in 1919 and has been published as its official publication since that date.

The Society used as its headquarters rented space in the Richmond Academy of Medicine Building for many years. We were nicely taken care of there, but, after adding the Department of Public Relations, all available space was entirely too small. It became necessary to seek a new home elsewhere. Following the approval of the House of Delegates last year, the building at 1105 West Franklin Street, Richmond, was purchased in December for our permanent headquarters, and the following April we moved in. We now have ample space to work in and two floors available to rent.

Committees

All important business and functions of any organization are usually performed by committees. The same applies to medical societies. The personnel of these committees are those most interested in that particular branch of work.

The Medical Society of Virginia has ten standing committees, and, this year, twenty-six special committees. The incoming president has the privilege of naming the chairman of all standing committees, dropping one member and adding one. He has the privilege of naming his own special committees.

At the mid-winter meeting of the Council in January 1928, Dr. John W. Preston, then President, discussed the question of Post-graduate work in Virginia to be sponsored and financed by The Medical Society of Virginia. Dr. J. Shelton Horsley, who also had referred to this in a previous address, was invited to attend this meeting and participate in the discussion. After a free discussion by the members of the Council, Dr. Israel Brown, of Norfolk, made the following motion: that post-graduate courses with clinical material be undertaken in Virginia and sponsored by The Medical Society, that the actual expense incurred be borne by the Society, that the plans be worked out by the President of the Society, Dr. Preston, and by Dr. J. C. Flippin, of the University of Virginia, Dr. W. T. Sanger, of the Medical College of Virginia, and Dr. E. G. Williams, State Health Commissioner. Thus, was born our Department of Clinical and Medical Education.

This committee, through the guidance of Mr. George Zehmer of the University of Virginia, has rendered valuable service for over twenty years. The actual teaching was done by the staffs of the two medical schools in the form of lectures and clinics.

This year Dr. W. C. Caudill, chairman of the committee, suggested we try a new approach to post-graduate work. It seems that the doctors in the rural sections have not been attending the post-graduate courses of instruction as they should. He decided to take the clinics to the doctors. He requested The Medical Society of Virginia to appropriate $1000 to support this project, which the Council did at the January meeting for 1951.

Through the efforts of Dr. Kinloch Nelson, four sessions have been arranged to be held in different rural sections of the state, endeavoring to reach the country doctor and those in small towns who do not have the time to attend meetings in the city. The sessions last from 2 p.m. to 9 p.m. with intermission for dinner. The instruction is by lectures and clinics. The speakers are paid $50 per session plus expenses. Those attending the lectures pay $4 to help defray expenses. Four sessions have been held thus far. I understand that they have been well received and well attended. I do not know of any better way to promote public relations than to let the public know and the country doctors know that their State Society is doing all in its power to keep them informed of the new discoveries, new developments and new techniques in the practice of medicine.

There are numerous other ways in which we are trying to keep physicians informed. Weekly clinics and lectures are being held at both medical schools where all are welcome. The Medical College of Virginia gives a two weeks refresher course every summer for Negro physicians. Dr. David Wilson, chairman of the Committee on Mental Hygiene, has held two all day sessions at the University this year for general practitioners where they discussed certain

emotional problems as observed by the general practitioner. Dr. Wilson is very anxious to extend this program another year.

The Cancer Committee, with Dr. George Cooper, Jr., as Chairman, working in conjunction with the American Cancer Society, is doing excellent work which covers the entire State. There are eleven approved tumor clinics located in strategic sections of the State. It is estimated that they will hold 700 clinic meetings this year and receive 4000 patient visits. These clinics have three main functions: accurate diagnosis, outlining the best type of therapy, and instruction. Any physician, living in a reasonable distance from these clinics, misses a golden opportunity to learn the latest about tumors both benign and malignant, if he fails to attend.

The American College of Physicians, the American College of Chest Physicians, and the Diabetic Society, each holds a half day session once a year. The larger hospitals over the State conduct a teaching program for residents and internes. These sessions are held three to four times a week throughout the year. All members of the staffs and visiting members are welcome.

The Department of Clinical and Medical Education is performing a most valuable and necessary function by making it possible for all physicians in the State to get the necessary post-graduate training without costing too much time or money.

Any physician who does not believe in or who fails to avail himself of these opportunities to keep posted on new developments and new discoveries in medical science may be likened to the farmer who sticks to his ox cart when automobiles, trucks and tractors are humming by daily. They will be lost in the dust and deserve to be relegated to the dump heap.

MEDICAL SERVICE

In 1948, Dr. Walter B. Martin and Dr. John T. T. Hundley, members of the Committee on Medical Economics, introduced a resolution requesting that the name be changed to a Committee on Medical Service. According to the Constitution, this committee was to have supervision of all matters relating to pre-paid hospital and medical care and rural health.

This committee for the past few years has been headed by Dr. John O. Boyd, Jr., of Roanoke. In the annual report submitted for your approval this year, they recommended that eight specific services be included in the work on Medical Service, listed as follows: Pre-payment Health and Hospital Insurance, Rural Health, the Chronically Ill, the Medically Indigent, Federal Health Programs, Child Health, Industrial Health, and Health Councils. If these groups could get together and co-operate, they could go a long way toward improving the general over-all medical care in this State. It would indeed set up a great bulwark against Compulsory Health Insurance or any branch of Socialized Medicine.

We still hear a great deal about the increasing cost of medical care. The public assumes that the rapid rise in the cost of medical care is largely due to an increase in medical fees. This is not true. The increased cost in medical fees adds a very small percentage to the total in the increased costs of medical care. The increased cost of medical care is due mainly to the increased charges in hospitalization and drugs, but the doctors receive the blame. The only way doctors can be held responsible for this added cost is that they are rendering better and more efficient medical care than has ever been rendered by any group of physicians in any nation in the history of the world. To render this type of service costs money. The public demands the very best and the latest improvements in medical science. The public is directly responsible for the increased costs.

Forty years ago one could get a bed in the Norfolk General Hospital for from $3 to $5 a day, according to accommodations. The drugs were free, no laboratory fee, and no anesthetist fee. Today the charge per bed per hospital day ranges from $8.50 to $17. The laboratory fee is $12.50 for the first ten days, plus $5 to $10 for tissue work. The operating room and anesthetic costs range from $30 to $40 per operation according to time. The average drugs costs are $1.52 per patient day. The tremendous increase in drug costs has taken place in the past two years because of the discovery of antibiotics, cortisone, and ACTH.

From the use of sulfonamides and antibiotics, much of the practice of medicine has been revolutionized in the past few years. The acute infectious diseases of childhood are no longer the "bug-bear" they once were. Acute mastoiditis is a thing of the past. The mortality in pneumonia in both children and adults has been reduced from 35% to about 5%. The

mortality from acute blood stream infections which once was 100% has been greatly reduced.

One way that we can help to combat the increased cost in medical care is to insist on our patients taking out some form of Voluntary Health and Prepaid Medical Care Insurance, whether it is in a private insurance company or in a mutual company plan.

Grievance Committee

A few years ago your Society organized a Grievance Committee, composed of five past presidents. Each local society in the State was requested to organize a similar committee. I feel that every member of our Society should know this and familiarize himself as to its duties. The public must be informed that such committees are in existence. If the Grievance Committee is put to proper use, it will go a long way towards settling all misunderstandings between patient and doctor, whether they relate to fees or improper treatment. All complaints should be filed in writing with the chairman of local committees. Thus far all cases have been settled satisfactorily.

Tuberculosis Committee

For several years the main function of the Tuberculosis Committee was to keep the Society informed as to what the State Health Department was doing towards tuberculosis control and treatment. This year an entirely new committee was appointed, with Dr. George A. Welchons as chairman, and assigned a specific duty. This committee was requested, after getting permission from Dr. Joseph E. Barrett, commissioner of the Department of Mental Hygiene and Dr. L. J. Roper, then State Health Commissioner, to make a survey of all mental institutions and all penal institutions in the State. The Committee was instructed to report its findings with recommendations as how best to detect, treat, and prevent the spread of tuberculosis in these institutions.

We do not have the moral right, nor is it economical to confine an individual and subject him to a chronic disease that may incapacitate him for life.

A few weeks ago your speaker with a member of this Committee visited the jail of one of our largest cities. The keeper of the jail was very cooperative, took us through the building and gave us all the information at his command. The building was clean, the food, which appeared to be wholesome, was plentiful. There were no flies or other insects to be seen, but the cells were small and dark with only artificial light and poor ventilation. We were told that around 13,000 prisoners passed through that jail in the course of a year. They remain anywhere from twenty-four hours to four months, occasionally a year. A physician was in attendance for acute sickness, but no effort was made to detect contagious diseases or tuberculosis. There was no method of treatment or segregation of the cases known to have the disease. There is no doubt of the importance of remedying this in the jails and mental institutions.

In the mental institutions we found that an attempt was made to detect tuberculosis on entrance. Those so infected were put in a ward to themselves. That was all the treatment that they received except food. Some effort should be made to treat the tuberculous condition along with their mental treatment.

There are many other committees with important functions, but time (and space) will not permit their discussion.

Public Relations

About eight years ago we formed a committee on Public Relations, consisting of Dr. J. M. Emmett, as chairman, Dr. H. B. Mulholland and Dr. I. C. Riggin, then State Health Commissioner. This was practically a new field for state medical societies, a field that all will admit has been too long neglected. Large corporations and public utilities have had their personnel directors and public relations officers for years.

The medical profession also has realized that it is important and necessary if we wish to preserve our freedom and identity, we must inform the public and those we serve what we are trying to do and how we propose to do it. In 1946, Mr. Henry S. Johnson, a member of the State Legislature, was selected as our Public Relations director. Before his untimely death in May, he had become one of the leading Public Relations directors of any medical society in the country. As you know, for several years the general public has been very dissatisfied with the medical profession, although not necessarily with their private physicians.

The public needs to be shown that they have the highest standard of medical care anywhere in the world and it is improving. Our system of the practice of medicine is the most scientific, progressive

and far-reaching of any system that has ever existed in the history of the world. The epidemics of contagious and infectious diseases have been reduced to a minimum. Life expectancy has been raised from 46 years to 68.2 years in the last half century.

The increase in the life expectancy was brought about mainly by improved health standards such as pasteurization of milk, vaccination, sanitation, and so on, which greatly reduced infant mortality. In 1900 we had approximately 3 million people alive over 65 years of age. In 1950 we had about 11 million over 65 years of age. With improved health standards comes added responsibility of increased numbers of the chronically ill and old people. We will meet this problem as we have met others. The high standard of medical practice which we have was produced by organized medicine, the medical profession, the medical schools, and the drug manufacturers working together in practice, teaching and research. The success which our system of medicine has attained could not have been accomplished by any one group alone, but only by all working together.

We frequently hear that there is a shortage of doctors. There is no shortage of doctors. We have more physicians to our population than any other country in the world, except Israel. We have one doctor to about every 750 individuals. Because of the influx of physicians from Europe following the war, Israel has one doctor to every 350 individuals. The problem is that the geographical location of our physicians is unbalanced at present. Some cities have too many doctors, which is to the detriment of the rural areas. This may be attributed mainly to two things: the attractions in the cities and specializing by doctors. Cities have cultural advantages, higher standards of living, conveniences, improved roads and methods of transportation, and congestion of people, all of which make it more appealing to the doctor and his family. He feels that he can make more money in a shorter time. This is a false illusion when one stops to consider the added office expense and increased cost of living. Too many doctors, especially young doctors, are taking up specialties, in comparison to those going into general practice. It would be better for all concerned, for the public and for the profession, if every physician were required to do general practice for at least five years before taking up a specialty. He should get a fuller and better all-round knowledge of the science of the practice of medicine before beginning to specialize.

Because of the rising cost of everything in the past few years, we hear much about our medical schools operating in a deficit. Many will have to close unless financial assistance comes soon from some source. I think that this is a fact that cannot be disputed. It is the duty and obligation of the medical profession to help pilot them out of this trouble. The stand taken by the American Medical Association and by the National Foundation for Medical Education is certainly a step in the right direction and deserves our most hearty support.

We certainly do not want the federal government financing medical education. The very day that our federal government begins to assist medical schools our politicians will begin to take control and medical education will start to decay. When they get control, socialized medicine will have been accomplished. We will no longer be able to practice scientific medicine under the standards as we are now doing. This is what has happened in other socialized and bureaucratic countries that have tried it. Once obtained, there will be no turning back.

Thirty-five years ago the medical institutions of Europe were considered the most up-to-date and finest teaching centers in existence. Physicians and medical students flocked there from the United States and from all corners of the earth for post-graduate study. Today the reverse is true. Under their present system their medical schools and standards of medical practice have gradually declined. Students are now coming to America for advanced study where they find the most progressive, most efficient and highest standards of medical teaching centers that have ever been created.

We can maintain this standard only by preserving our free and individual method of thinking and private enterprise, by keeping the politicians out of medicine, and by putting more and better medicine into politicians.

I always felt that it was best that physicians stay out of active politics, that they would do better by sticking to their profession. However, there are some things physicians can do, and should do, to be a good citizen as well as a good doctor. Every physician should vote and see that each member of his family votes. He should encourage all those with whom he comes in contact to vote. A physician should keep

informed on the political issues of the day. He should inform those with whom he comes in contact what he believes to be right or wrong and inform them as to what he believes to be to the best interest of his community, state and nation. One will find it much easier to convert a candidate before he is elected than after he arrives in Washington.

Senator Richard M. Nixon, of California, delivered an address before the Conference of Presidents and Officers of State Medical Associations meeting in Atlantic City and discussed "A Legislator Views Medicine". He had this to say: "I believe it is essential that all members of the medical profession recognize that an attempt to socialize any American profession — any American institution— constitutes a threat to all. If we understand this, it seems to me that from a selfish standpoint, the members of the medical profession should become interested in political campaigns and remain interested in political affairs, because by objecting to, avoiding, and defeating programs which would socialize other institutions or professions, they will be taking very effective action in behalf of their own interests". He also states, "In a democracy, the character and the quality of our public servants is directly related to the interest and the intelligence of the electorate."

Unfortunately a large percentage of the intellectual people in this country do not take an active part in political campaigns and do not take the time and trouble to vote. They are too interested and too wrapped up in their own private affairs. On the other hand, those who have personal interests at stake, those who are trying to hold their political jobs, and members of trade unions are always found at the polls on election days. They usually get their man elected. If we, as a professional group, wish to have more political weight, we must change our attitude. I again quote Senator Nixon. "The medical profession is made up of a group which represents one of the highest standards of intelligence in the whole country. For that reason, members of the medical profession, I think, owe a duty not only to themselves and to their profession, but also to the nation at large, to give the nation the benefit of that intelligence in selecting the representation the people will have in the state and national capitals. Because if we can increase the general level of intelligence of the electorate, it means that we are going to increase the character and the quality of those who represent us in Washington." This advice applies to the legal profession and to all educated groups alike, if we wish to preserve our standards, our national institutions and our American way of life.

If we wish to preserve our democracy, we must be tolerant of our brother practitioners, regardless of race, color or creed, tolerant of those among us if they can prove their worth, who are qualified and willing to do the right thing. There is a phrase in the constitution of The Medical Society of Virginia, which states that only members of the *white* race may become members of this Society. This means that no member of the Japanese, Chinese, Philippine, Indian or Negro race, no matter how well qualified, could become a member of this Society. This means that because of his color Noguchi, a Japanese scientist, who gave us our present knowledge of neurosyphilis; Hinton, an American Negro, who developed the well known serological tests for syphilis, known by his name; Dr. Khanolkhar, a noted pathologist of India, who has contributed much to our knowledge of tumors, could not join our Society. Fellow members, we should delete the word "white".

It is not fair. It is not just. It is not democratic. It does not manifest the Christian spirit to limit membership in this Society to white people only. If we wish to preserve our freedom and our American way of life, we must think on these things.

817 Wainwright Building.

THE "L.E. CELL" A PHENOMENON OF DIAGNOSTIC VALUE IN ACUTE DISSEMINATED LUPUS ERYTHEMATOSUS

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The Hargraves' "L.E." cell is probably the most important recent advance in our knowledge of disseminated lupus erythematosus. This disease in its acute disseminated form at times baffles the most astute clinician. The manifestations of this disease are so variable that the diagnosis often is not made until autopsy is performed. The "L.E." cell, originally observed in 1946 by Hargraves in marrow preparations of patients with acute disseminated lupus erythematosus, has given impetus to further work using this phenomenon as a diagnostic aid.

The purpose of this report is to discuss briefly the cardinal manifestations of this disease and the progress made in utilizing the hematologic aspects of the illness as an adjunct to the diagnosis. Recently the diagnosis of disseminated lupus erythematosus has been substantiated in seven patients by the finding of "L.E." cells in heparinized concentrated bone marrow smears. We are reporting three of these cases in detail, and the remainder briefly.

A review of this disease is not within the scope of this paper. However, several excellent studies have recently been published [1, 10, 14, 16,] and should be consulted by those interested. The etiology is unknown and recovery is rare. There is no specific treatment. The disease in its disseminated form has a higher incidence in the Caucasian race and the female is usually affected. It may occur in the Negro race and in males, although the incidence in either is rare. One of the cases which we are reporting occurred in a Negro male. A report of a similar occurrence has recently been published by Vesey and Nelson[15].

Several features of this disease are noteworthy. Fever without any characteristic pattern, a depressed total leukocyte count, and a migratory arthralgia should always arouse suspicion of this disease. Absence of the skin rash, which is supposed to be so characteristic, is known as "lupus sine lupus" i.e., lupus without the characteristic skin lesions.

The "butterfly" skin lesion in this disease is so called because of its distribution over the bridge of the nose and the malar prominences. Exposure to sunlight is considered a *sine qua non* for the development of this manifestation. As the disease progresses, the dematologic lesions become more profuse and may cover the entire body. Ulceration of the fingertips has been stressed as another feature.

Other observations sometimes encountered include polyserositis, various pulmonary findings, gastro-intestinal disturbances, and even central nervous system and cardiac involvement. Atypical non-bacterial verrucous endocarditis (Libman-Sack's disease) is now generally held to be a feature of disseminated lupus erythematosus rather than a separate entity.

Routine laboratory findings usually present in addition to leukopenia include anemia, an increase of the sedimentation rate, a reversal of the albumin-globulin ratio, and false positive reactions in Wasserman or flocculation tests. The kidneys are usually involved and albuminuria and microscopic hematuria are common findings.

In 1946, Hargraves observed a phenomenon in bone marrow preparations of patients suffering from acute disseminated lupus erythematosus which was believed to be of a lytic-phagocytic character. Morton,[11] working under Hargraves' direction, originally reported this in a thesis, and later Hargraves, Richmond, and Morton[2] presented a preliminary report of this finding.

The "L.E." cell acquired its name because of its frequent occurrence in the bone marrow in cases of acute disseminated lupus erythematosus. Characteristically, it is a mature neutrophilic polymorphonuclear leukocyte which has engulfed a round homogeneous, purple-staining mass of chromatic material.

The cause for such is believed to be either phagocytosis of free nuclear material with a resulting round vacuole containing this partially digested and lysed nuclear material, or, second, an actual autolysis of one or more lobes of the nucleus of the involved cell. Gradations in the process of digestion range from a smoky appearance of "digested" material to relatively intact nuclei where the chromatin pattern is still visible (Fig. 1 and 2).

In seven of the eleven cases of acute disseminated lupus erythematosus reported by Morton, the "L.E." cell was found. In Hargraves' preliminary report, more than twenty-five cases presented this phenomenon. Haserick and Sundberg[7] duplicated this work by finding the Hargraves' "L.E." cell in four out of five cases of acute disseminated lupus erythematosus, and emphasized its diagnostic value especially in those cases in which the classic dermatologic manifestations were lacking. Also, of importance, was the fact that in the subacute and chronic forms of the disease this phenomenon could not be shown. During partial remissions of the acute stage only a rare "L.E." cell may be found where only a short time before large numbers could be found.

Difficulty was encountered by many investigators who tried to duplicate this work. In all cases it was found that the bone marrow smear was a direct smear, whereas Hargraves, Haserick and Sundberg had made their smears according to Schleicher's technic[12] from concentrated and unconcentrated marrow to which an anticoagulant such as heparin, oxylate, or citrate had been added. The question of whether an agent common to all anticoagulants used contained a responsible factor which led to the production of "L.E." cells necessarily had to be settled.

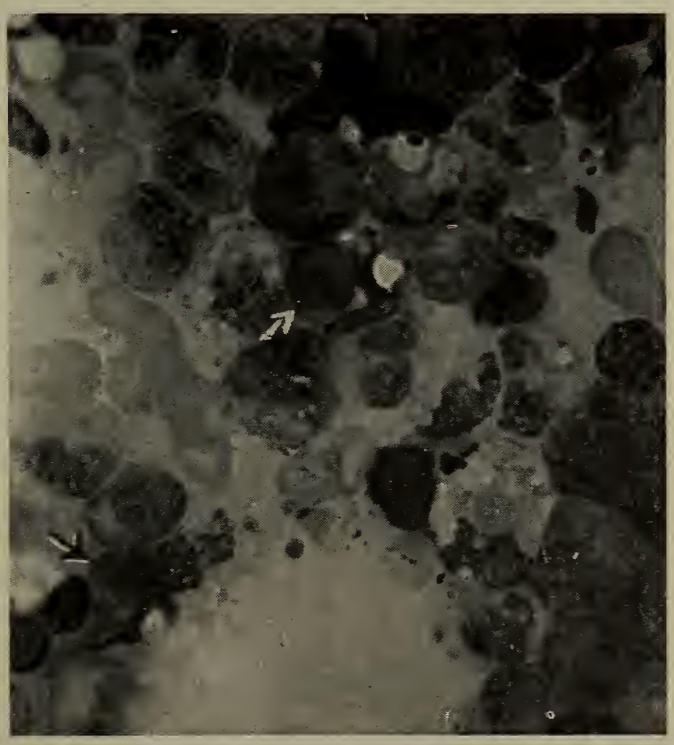

Fig. 1. Concentrated, heparinized marrow from Case 1 (x675). Arrows point to two cells typical of the "L.E. phenomenon".

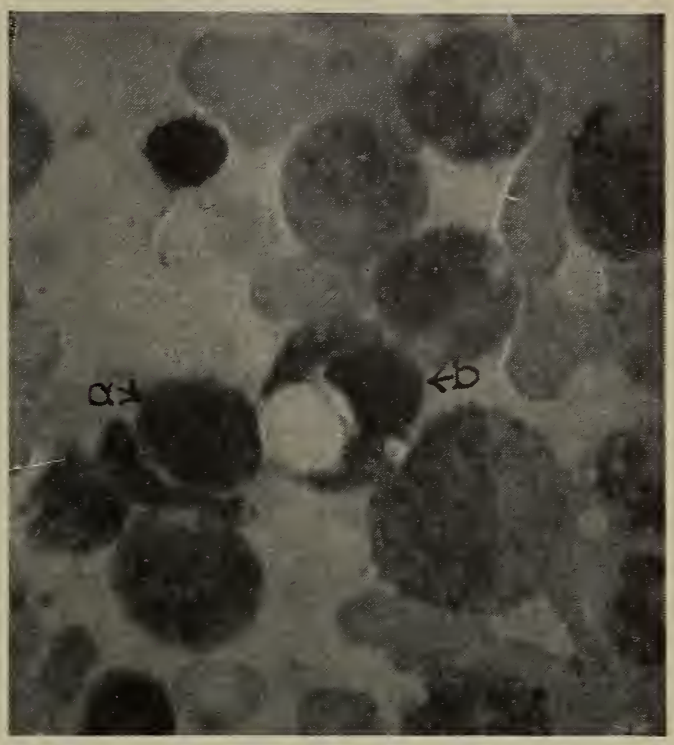

Fig. 2. Concentrated heparinized marrow (x900) from Case 1. (a) Typical cell of "L.E. phenomenon" showing large homogenous mass with remaining nuclear remnants below on periphery. (b) "L.E. cell" in which division of homogenous inclusion body apparently occurred. Note vacuole where previously there was nuclear inclusion material.

This question was brought nearer solution when Sundberg and Lick[13] reported finding of "L.E." cells in the smears of the concentrated leukocytic layer of venous blood in three cases of acute disseminated lupus erythematosus. Moffatt and coworkers have observed typical "L.E." cells and "rosette" formation of leukocytes in the smear of the buffy coat from the mixture of patient's and normal blood. Hargraves[3] showed that concentrated preparations from venous blood showed nucleolysis and agglutination in which neutrophilic leukocytes cluster about the homogenous mass of nuclear material in an attempt to engulf it. This occurrence suggested that rather than the anticoagulant being the factor in causing this phenomenon, it was the result of hypersensitivity. If this hypothesis was true, the agent or factor causing the nucleolysis, agglutination, and

phagocytosis could be in the plasma of the patients with acute disseminated lupus erythematosus. Hargraves showed this to be true by producing typical "L.E." cells as well as the phenomenon of nucleolysis and agglutination by incubating plasma obtained from the venous blood of patients with acute disseminated lupus erythematosus with bone marrow from patients who did not have this disease. This finding seems to point to the "L.E." cell phenomena being probably immunologic in nature. Haserick and Bortz,[5] utilizing only the plasma of 14 patients acutely ill with acute disseminated lupus erythematosus and heparinized bone marrow of 48 normal persons, induced the "L.E." cell and clumping of polymorphonuclear leukocytes. Haserick[8] feels that the clumping of the polymorphonuclear leukocytes in a rosette pattern probably precedes the development of the "L.E." cell. It is his belief that this clumping should be considered as diagnostic as is the final phase (the "L.E." cell) of this phenomenon. Plasma from patients with chronic discoid lupus erythematosus and other diseases failed to induce this phenomenon.

It, therefore, becomes increasingly apparent that the phenomenon of the "L.E." cell originally described by Hargraves is specific for acute disseminated lupus erythematosus. Its value as a diagnostic aid has been well substantiated. Its value in opening new fields of investigation for the etiology and therapy of this disease is self-evident.

REPORT OF CASES

Case 1. History. Mrs. M. E. J., 38 year old white housewife, was admitted to the Sheltering Arms Hospital on July 11, 1949. She complained of a skin rash on the face and other exposed areas of the body. Fever and fatigue had been present for about two months, and migratory arthritis had been noted for nine months preceding this admission.

Because of this episode and similar ones that had occurred regularly every spring and summer for the past thirteen years she had seen many physicians and was diagnosed as having pellagra. In spite of specific vitamin therapy the condition was not cured, but invariably would "clear up" in the fall only to return the following spring. An allergy of the skin to sunlight was also considered to be a factor. The past history, family history and systemic review were essentially non-contributory.

Physical Examination: Positive findings on admission were: Temperature 100°F., the pulse rate 72 per minute, and the respirations 20 per minute. The blood pressure measured 120 mm. Hg. systolic, and 80 diastolic. The skin showed a diffuse, red maculopapular eruption with areas of dry, scaly exfoliation. There was no exudate. The mouth showed gingivitis and marked dental caries. The heart and lungs were grossly negative, as was the abdomen.

Laboratory Findings: Repeated urinalyses showed albuminuria, pyuria, and on rare occasions microscopic hematuria. The hemoglobin varied from 86 per cent on admission to 56 per cent on October 19, 1949, while the erythrocytes on these occasions were 4.5 and 2.9 million per cu. mm., respectively. The total leukocyte count on admission was 11,750 per cu. mm. with a differential count of 62 per cent neutrophils; 12 per cent eosinophiles, 21 per cent lymphocytes and 5 per cent monocytes. Subsequent counts were within normal limits or were of definitely leukopenic values. The sedimentation rate on two occasions was 30 and 32 millimeters in one hour. Blood non-protein-nitrogen measured 27 mgm. per cent, while the total proteins were 7.0 mgm., per cent, albumin 3.5 grams per cent and globulin 3.5 grams per cent. A skin biopsy was made soon after admission, but the findings were not thought to be diagnostic of any specific disease. An electrocardiogram was within normal limits on admission. A roentgenogram of the chest showed "prominent hilar shadows and increased bronchial markings to the right base."

Course in the Hospital: This patient remained ill with an erratic clinical course. She was in extremis several times, only to improve to the point that a remission seemed likely. In addition to migratory arthritis, there developed pericardial and pleural effusion, cardiac dilatation and marked alopecia. At no time have her dermatologic lesions cleared. Because of anemia and leukopenia, many transfusions of whole blood were given. At the present writing she is home, doing her housework. The hair is returning and her symptoms have practically abated.

Hematologic Studies: July 20, 1949: Sternal marrow aspiration:

Concentrated marrow: The marrow is hyperplastic. There is some left shift in the myeloid cells and toxic granulations are seen. Erythropoiesis is normoblastic and normal. Platelets seem adequate.

There are many mature polymorphonuclear leukocytes which have engulfed a purplish homogenous mass. These have the same characteristics of the "L.E." cell described by Hargraves, who personally confirmed these findings.[4]

August 6, 1949: Concentrated marrow: This marrow is slightly hyperplastic. The granulocytes show marked toxic changes. There is vacuolization of the cytoplasm of many granulocytes. Also, there is found a *rare* polymorphonuclear cell that has a homogenous, purple inclusion body that has pushed the nuclear lobes to the periphery. This is probably an "L.E." cell and the sparcity of them probably indicates a remission.

September 1, 1949: Concentrated, heparinized venous blood preparation. This slide shows numerous stages of nucleolysis in the toxic polymorphonuclear cells. In addition, there are many cells with the typical characteristics of "L.E." cells.

June 10, 1950: L.E. cells found on admixture of patient's plasma with "buffy coat" of heparinized venous blood of normal individual, according to technique of Moffatt and co-workers[9].

Conclusions: Acute disseminated lupus erythematosus was established as the diagnosis on the basis of these findings in the blood and marrow. Hargraves[4] supported this diagnosis as did Haserick[8], who, independently caused the "L.E." phenomenon to appear in normal marrow with plasma from this patient.

The patient has run a typical course on this admission with the cardinal points of the disease being illustrated. She, at present writing, appears to have gone into a clinical remission, despite the fact that there is hematologic evidence of activity still present.

Case 2. History. E.W.P., a sixty year old white male, was admitted to St. Elizabeth's Hospital February 14, 1950, complaining of chest pain, chills, and fever. More than ten years previously, following the use of sulfanilamide for rheumatism, he had become "deathly sick" and he had had a fever for about one year. Since then he occasionally has had mild transient arthralgia. Ten years ago he received x-ray therapy for a rash on his face. He developed pneumonia three years ago, and had an uneventful recovery.

He remained well until about December 1, 1949, when he developed an upper respiratory infection, anorexia, weight loss, malaise, post-prandial epigastric distress and flatulence. His symptoms continued and on January 12, 1950, he was admitted to a hospital in another city where he was found to have fever, elevated blood pressure, and pyuria. The pyuria cleared and he returned home in ten days. His condition gradually declined, and after two weeks, he developed intermittent pain and swelling of the hands, feet and shoulders, lasting two to three days each time. Three days prior to admission to the hospital he developed sharp left shoulder pain, radiating down the anterior left chest to the left costal border. The pain was more severe on deep inspiration. He had no cough or hemoptysis. He then began having chills and fever.

Physical Examination: Positive findings on admission were: Temperature 103.8°F., pulse rate 110 per minute, and respiration 26 per minute. The blood pressure measured 160 mm. Hg. systolic and 90 diastolic. The patient was restless and appeared to be acutely ill. The lungs were clear to percussion and auscultation, and the remainder of the physical examination was essentially negative.

Laboratory Findings: The Mazzini test was negative. The hemoglobin was 10 grams per cent and the erythrocyte count was 3,300,000 per cu. mm. The leukocyte count was 5,850 per cu. mm. with 72% neutrophils, 27% lymphocytes and 1% monocytes. On one occasion the leukocyte count rose to 12,200 per cu. mm. However, all other blood counts showed a persistent leukopenia and anemia. The platelet count was 119,000 per cu. mm. Urinalysis revealed a 3 plus albumin, 4-8 WBC and many RBC per high power field. Transient hematuria was seen on repeated urinalyses. The NPN was 30 mg. per cent. There was 40% retention of PSP in two hours. Blood cultures were negative. All agglutinations, including the Rickettsial group, were negative. Pseudomonas and E. Coli were cultured from the urine. Feces cultures were negative. Roentgenogram of the chest on admission showed increased broncho-vascular markings, elevation of the left diaphragm and an area of infiltration at the left base. This gradually cleared on subsequent films. Intravenous pyelograms were negative. The electrocardiogram was normal.

Course in Hospital. On cystoscopic examination the bladder mucosa was hyperemic. RBC were present in the urine from both kidneys. On the seventh hospital day the patient developed a hemorrhagic "butterfly" rash on the cheeks and across the bridge

of the nose. He complained of generalized aching and appeared to be acutely ill. By the tenth day the rash had spread to the exposed upper portion of the chest. Two days later the rash had become generalized and was hemorrhagic and confluent, and faded on pressure. At this time the facial rash began to fade and become crusted. On the fifteenth hospital day, the rash and systemic symptoms began to subside and he gradually and steadily improved.

Hematologic Studies: Unconcentrated marrow: Hypoplastic marrow with normoblastic erythropoiesis somewhat depressed. The granulocytes are left shifted but not abnormally. There is an increase in platelets and the number of reticuloendothelial and plasma cells.

Concentrated marrow (heparinized): This preparation is literally "loaded" with cells that have all of the characteristics of the "L.E." cell described by Hargraves. From a hematologic standpoint, the diagnosis of disseminated lupus erythematosus could be made from this study.

Impression: Marrow findings consistent with clinical diagnosis of acute disseminated lupus erythematosus.

Case 3. History.—N. W., a twenty-two year old Negro male, was admitted to the Veterans Administration Hospital* for the first time in March, 1947. Except for three attacks of gonorrhea, he had always been in good health until March, 1946, when he began having a transient feeling of fullness in the right anterior side of the chest. In December, 1946, he began having occasional sharp pains in the right chest, mild exertional dyspnea, and a questionable increase in cough. He had no known fever or other symptoms, but the chest pain and dyspnea persisted and he came to the hospital. He was found to have a right middle lobe pneumonitis, which cleared to x-ray and physical examination without any specific therapy. The leukocyte count was 4,800 per cu. mm. with a normal differential leukocyte count. The hemoglobin was 11.3 grams per cent and the RBC 4,060,000 per cu. mm. The Kahn test was negative. There was a trace of albumin in the urine on two occasions. Following discharge he felt well until March, 1947, when he developed arthralgia of the shoulders, elbows, knees and ankles a few days following a mild upper respiratory infection. He soon developed slight swelling of the lower left leg and returned to the hospital. There were a few pigmented scarred areas on both cheeks. There were small, firm, non-tender, cervical, axillary, epitrochlear, and inguinal lymph nodes. The lower left leg had slight pitting edema and there was pain on motion of shoulders, elbows and knees. Otherwise, physical examination was not remarkable. He again had anemia, leukopenia and slight albuminuria. Total proteins were 8.8 grams per cent, with albumin 3.6 and globulin 5.2 grams per cent. There was no sickling of the erythrocytes. Agglutination studies, including test for Brucellosis, were all negative on two occasions. Sternal marrow examination and roentgenogram of the chest were reported as being normal. A biopsy of an epitrochlear node was reported as reactive lymph node. The patient ran a daily low-grade fever during the three months of hospitalization. He gradually improved symptomatically and was discharged. Since that time he has been seen frequently and has been studied exhaustively on several occasions. He has continued to have essentially the same complaints and physical and laboratory findings. He twice developed a severe anemia, requiring several transfusions of whole blood each time. Lymph node biopsy again was reported as "reactive lymph nodes." Muscle biopsy showed many of the blood vessels to be surrounded by dense foci of lymphocytic infiltration. Blood cultures were all negative. Many electrocardiograms were made, and all were considered to be normal. He was given para-amino-benzoic acid, 1.2 grams daily, for several months without any definite improvement. In November, 1948, the patient had a generalized convulsion, lasting five minutes, at which time he bit his tongue. Two electroencephalograms were normal. Neurologic examination was negative and examination of the spinal fluid was normal. The patient continued to have infrequent grand mal seizures. At times he appeared very lethargic. The electroencephalogram in June, 1949, was "grossly abnormal, showing a S-2 record and spike activity in all leads, indicating epilepsy and allied disorders." He was started on dilantin, 0.1 grams three times daily, which he has continued to take, with a decrease in the number of seizures. In December, 1949, he again began having increased pain in his chest and peripheral joints and swelling of the ankles and feet.

*Reported with the permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the author.

Six days later he had two grand mal seizures one hour apart and was brought to the hospital.

Physical Examination: Positive findings were: Temperature 102° F., pulse rate 110 per minute and respirations 22 per minute. The blood pressure measured 125 mm. of Hg. systolic and 80 mm. diastolic. There were small pigmented areas over the malar eminences and on the forehead. The apical impulse was 3 cm. outside the mid-clavicular line in the fifth left intercostal space. The heart and lungs were otherwise normal to percussion and auscultation. The liver edge was smooth and palpable 2 cm. below the right costal margin. Moderate pitting edema of both feet was present. The left elbow was slightly swollen. There was moderate generalized lymphadenopathy. Neurological examination was negative.

Laboratory Studies: The cardiolipin test for syphilis was negative. The hemoglobin was 12.2 grams per cent and the leukocyte count was 6,000 per cu. mm. with 54% neutrophils and 42% lymphocytes, 2% monocytes and 2% eosinophils. The leukocyte count ranged between 3,500 and 8,000 per cu. mm., usually being less than 5,000. Many urinalyses were negative except for a trace of albumin on three occasions and 1-2 RBC per high power field on one occasion. The total proteins were 8.9 grams per cent with 3.4 grams albumin and 5.5 grams globulin. With the onset of jaundice, the serum bilirubin rose to 6.4 mg. per cent, 3.4 mg. direct and 3.0 mg. indirect. The thymol turbidity was 26 and the cephalin flocculation was 4 plus in 24 hours and in 48 hours. The urine urobilinogen was 1.3 mg. (two hours specimen). An electroencephalogram was very abnormal, indicating focal abnormality in the frontals and generalized disturbance of cerebral physiology. Roentgenogram of the chest showed an increase in the transverse diameter of the heart in comparison with previous films, but was otherwise normal. Barium meal examination was normal.

Sternal Marrow Examination: Examination of several concentrated heparinized bone marrow smears showed a moderate number of polymorphonuclear leukocytes which had engulfed homogeneous blue to purplish material. These had the characteristics of the "L.E." cell described by Hargraves. The marrow showed myeloid hyperplasia and normoblastic erythropoiesis.

The impression was that this concentrated specimen substantiated the clinical diagnosis of disseminated lupus erythematosus.

Course in the Hospital: About one week after admission the patient developed malaise, anorexia, right upper abdominal discomfort, hepatomegaly, icteric sclerae, dark urine, and abnormal liver function tests and it was thought that he had homologous serum jaundice. He had an uneventful recovery in one month. On February 6, 1950, examination of concentrated smears of heparinized bone marrow revealed typical "L.E." cells. Since then the patient has gradually improved and is relatively asymptomatic. However, he still has his original complaints, i.e., a feeling of fullness in the right chest, exertional dyspnea, and intermittent moderate pain, stiffness and swelling of various peripheral joints.

Case 4. History.—M.E.C., 18 year old white female, noted eruption involving face September, 1948. Shortly thereafter there was anorexia, nausea, vomiting and fever. The patient was hospitalized for one week in November, 1948. During this period a specimen of skin was removed for biopsy which on examination was suggestive of acute disseminated lupus erythematosus. Within a short time after discharge from the hospital the patient lost most of her hair.

In March, 1949, the patient was given sodium para-amino-benzoic acid. This was followed by a generalized maculo-papular eruption. This rash cleared promptly after the withdrawal of this drug.

The patient was able to continue with her school work until March, 1950. Anorexia, fever, pain in the joints and general weakness were the prominent complaints. The patient was admitted to the hospital. The physical findings at that time were a generalized maculo-papular eruption most prominent over the malar eminences. There were no other findings of note.

Laboratory examination included numerous normal urinalyses. The total white count varied between 2650 and 4000 per cu. mm. Because of severe anemia a number of transfusions were given. The "L.E." cell was demonstrated in a concentrated sternal marrow aspiration in April, 1950.

Case 5. History.—Mrs. H.N.T., a 39 year old white female, has had intermittent pain and swelling of various joints since 1946. It was thought that she had either rheumatic fever or rheumatoid arthritis, and she was given two courses of chrysotherapy

without improvement. The patient had a recurrence in March, 1950, and was found to have a soft systolic apical murmur in addition to the joint manifestations.

The erythrocyte count was 4,200,000 per cu. mm., the hemoglobin 85%, and the leukocyte count 4,800 per cu. mm. Examination of the urine revealed a trace of albumin and microscopic hematuria. She began running an intermittent fever, the temperature reaching 104°, the murmur became more intense, and she was thought to have subacute bacterial endocarditis. All blood cultures were negative. Electrocardiograms were negative. She received large doses of penicillin without improvement. On May 24, 1950, "L.E." cells were found in the myeloid-erythroid layer of concentrated heparinized sternal marrow. At no time has this patient had any cutaneous lesions, and she may be considered as a case of lupus sine lupus.

Case 6. History.—Mrs. S.H., aged 52, had been treated for hypertension for a number of years and had no other complaints until March, 1950, when she developed a skin eruption on her face. This was described as a well defined, erythematous, annular rash, believed to be most suggestive of a drug eruption.

She was hospitalized with cardiac dilatation and a blood pressure of 190 mm. Hg. systolic, and 90 diastolic. There was low grade fever up to 100.6° F. Because of the question of disseminated lupus erythematosus, aspiration of the sternal marrow was performed on March 27 and the heparinized concentrated preparation was reported as: "only a rare cell characteristic of the L.E. phenomenon could be found. There were many neutrophils, however, where large vacuoles with nuclei pushed to the periphery around them—suggesting that the homogenous inclusion body had been lost. Finding only a rare characteristic L.E. cell suggests that this is acute disseminated lupus erythematosus in remission."

At present, her lesions have practically cleared in a three months' period and there is no physical discomfort.

Case 7. History—Mrs. K.E.McE., a 38 year old housewife, became sunburned while working in her garden in June, 1949. The erythema did not clear on her face, but instead spread from the bridge of the nose to the forehead and malar prominences accompanied by moderate edema. There was no particular sensation to this rash, but it progressed to involve the arms and legs. Fatigue and shortness of breath were the only other complaints.

Two months after the onset, she was hospitalized. A moderate hypochromic anemia and leukopenia were noted. The electrocardiogram showed minor T wave changes. Her temperature ranged from 100° to as high as 105° F. In August, 1950, concentrated heparinized marrow obtained from the sternum on two occasions showed only a rare neutrophil with homogeneous inclusion bodies and nuclear lobes pushed to the periphery. The diagnosis of disseminated lupus erythematosus was suggested.

In eight months her lesions cleared markedly, but of interest is that a repeat marrow aspiration in April, 1950, showed more than twelve typical neutrophils with the "L.E. phenomena" on the concentrated specimen. Easy fatigability and dyspnea on exertion were her chief complaints. It was felt that this patient definitely has disseminated lupus erythematosus, but it has been quiescent in recent months.

SUMMARY

The clinical and laboratory manifestations of acute disseminated lupus erythematosus have been briefly reviewed.

The "L.E." cell found in preparations of the bone marrow and peripheral blood in patients with acute disseminated lupus erythematosus has been reviewed and its significance discussed. That it may be related to an immunologic response by the body is supported by the finding that plasma of these patients incubated with normal bone marrow induces the formation of these cells.

Seven cases are cited in which the diagnosis of acute disseminated lupus erythematosus was made by demonstrating the "L.E." cell in bone marrow or peripheral blood. Three cases are presented in detail.

CONCLUSIONS

1. The "L.E." cell is a diagnostic aid in acute disseminated lupus erythematosus.

2. The "L.E." cell may usually be found in bone marrow or peripheral blood preparations if proper care is taken in obtaining such material.

3. The "L.E." cell may be induced by incubating normal bone marrow or venous blood with plasma from patients with acute disseminated lupus erythematosus.

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Cervix Examinations Urged for Early Cancer Detection.

A woman who has an ideal cancer detection examination of the cervix with no abnormal findings may be reasonably sure that no clinically important cervical cancer will develop within six months, and perhaps longer. This opinion was expressed by Dr. Howard W. Jones, Jr., Baltimore gynecologist, writing in the July 28 *J.A.M.A.*

Dr. Jones said an "ideal" examination should consist of a smear study, microscopic examination of tissue removed from an abnormal tissue, feeling and a history-taking.

He pointed out that cancer of the cervix is responsible for about one out of every seven female cancer deaths. Cervix cancer, he said, in many instances has an insidious development and when symptoms appear the disease is far advanced.

Consequently, he stressed the importance of smear and biopsy studies in cases of abnormal cervices where no symptoms have developed. Inspection alone is not a reliable diagnostic method for small cancers, he said.

AN EVALUATION OF THE EPILEPSY PROGRAM IN VIRGINIA*

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There are approximately five hundred thousand epileptics in the United States. This figure is of course only an estimate. So long as epilepsy remains difficult to define exact census figures will not be possible. Authoritative reviews of the problem, however, reveal that the statistical incidence of epilepsy is somewhere between four and six per thousand population. It is interesting to note that agricultural areas have higher epileptic "rates" and also regions with a high percentage Negro population. Negroes are generally found to be twice as susceptible to epilepsy as other races.

On the basis of the above considerations (and Virginia's population of over three million—22% Negro) it would not be unreasonable to estimate that our Commonwealth has 15,000 epileptics.

Since epilepsy is statistically as common as tuberculosis or diabetes, the general practitioner should be at least as familiar with the diagnosis and treatment of epilepsy as he is with these other "more popular" diseases, and as informed as to what is being done and can be done for them in Virginia.

It is obvious from these large figures that only a very tiny percentage of the epileptics in Virginia are being cared for by public health agencies. The remainder of the epileptics (who are getting any medical care at all) are certainly being treated by the family doctor or private specialists.

First, we will review the state institutional facilities for those severe epileptics whose sickness is such that they require intramural care. The Lynchburg Colony for epileptics and feeble-minded patients was opened in 1911 and now has an average epileptic population of around 500. It is the most important epileptic center in the State. Conditions in this hospital are hopelessly overcrowded. Unless an epileptic is of school age (and therefore considered eligible for training) or unless he has become a menace to public health, it is likely that he will be placed on a waiting list and will not be able to obtain hospitalization in Lynchburg. Of course, epileptics who have a psychosis in addition to their epilepsy, may be hospitalized as "insane" in the regional hospitals at Marion, Staunton, Williamsburg and Petersburg, the latter hospital caring for the Negro epileptics (in a department separate from the psychotic epileptics).

Although nearly twice as many Negroes as white subjects suffer from epilepsy, there is an outstanding discrepancy in the figures for Lynchburg and Petersburg. Approximately 500 whites are cared for in the Colony at Lynchburg but the average non-psychotic epileptic population in Petersburg is around 60. It is presumed that if there were proper facilities that a much higher number of Negro epileptics could and would be hospitalized. Actually, there are not sufficient facilities in either of these two designated hospitals for Virginia's epileptics in need of intra-mural care.

Although there is no exact knowledge available, it is not likely that any sizable number of epileptics are maintained in private hospitals in Virginia.

Before leaving the subject of the intra-mural care in Virginia it must be noted that the Commonwealth has had, for approximately 25 years, a law for the eugenic sterilization of epileptics and feeble-minded individuals and this law has been applied cautiously in some cases where there was a strong familial tendency toward reproduction of epileptics and mental defectives. Indeed it was the decision of Supreme Court Justice Oliver Wendell Holmes in the case of Buck vs. Commonwealth of Virginia that led to the first practical eugenic sterilization procedure in the United States.

Extra-mural care for Virginia epileptics is a somewhat more hopeful matter to report. Both Federal and State government has provided facilities for such care, but the largest single effort in Virginia is provided by the "Virginia Society for Crippled Children and Adults" at the University of Virginia

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Hospital in Charlottesville. This anti-convulsive clinic was utilized by two thousand three hundred and thirty-eight persons from January, 1945 (the date at which the clinic was set up), until April 1, 1950. It is sponsored by the University of Virginia Hospital and has field clinics in various parts of the State where their services are most needed. It gives an opportunity for complete medical, neurological and psychiatric examinations, psychological testing when indicated, electroencephalogram when necessary and arranges for hospitalization or special tests when an indication for them is found. The field clinic operates by arrangements made in advance. This division is headed by Drs. Leigh and Klingman of the University of Virginia Hospital. Clinics are held either in areas where the most cases are found, or where there is the greatest need.

For example, the Richmond area is not included because of the availability in the Richmond area of the Medical College of Virginia clinic. At the present time eight clinics are held in the following order and areas: March—Norfolk and Newport News; April—Norton; May—Bristol and Wytheville; September—Winchester and Arlington; November—Danville. These clinics are scheduled in advance with the permission of the local health officer. Arrangements are made as to the place to hold the clinic, usually through the local Health Department, or if held in a hospital, through the superintendents of the local hospital. The secretary of the Anti-convulsive Clinic visits the area in question a week prior to the date set and contacts local organizations and physicians who might care to refer patients. Organizations particularly interested in referring patients have been the Department of Public Welfare, Child Welfare Agencies, Health Departments and Social Service Agencies. There is no charge made to the patient or the referring agency for the visit. Results have been reported as very gratifying. Local medical societies and physicians have been cooperative and willing to accept help in that field of work which they feel they do not understand too well. Results from therapy have also been good. It is estimated that 25% of the patients have obtained good control of their seizures, either with complete cessation or marked reduction in the number of severity. This success would suggest the possibility that if institutionalized cases had the advantage of intensive care as provided by the Society for Crippled Children that quite a few might not need to remain always in the hospital. Fifty per cent of the outpatients in this clinic have obtained "fair" results, although still having a sufficient number of seizures to present a problem. The remaining 25% have obtained little or no relief and in these cases there is usually severe organic damage or deterioration, cases which are usually classified as "hopeless." For the first two groups a contact has been established with the State Rehabilitation Service, an agency most helpful in attempting rehabilitation of such patients.

The outstanding difficulties that this clinic has encountered have been first an indifference on the part of the patients to report their progress, and secondly, the lack of sufficient personnel, such as a Social Service worker who could look into the homes of these patients and maintain close contact with those patients who need to be urged to regularly continue their medication. Efforts need to be made to have some qualified person to visit the school, talk to the superintendent so that the epileptic children who are frequently barred, would be allowed to get a normal education and be treated as normal children insofar as possible.

One of the values of the epilepsy program in this clinic has been the opportunity to evaluate new medications prior to their general release. Thiantoin of Eli Lilly Company was on trial for a period of about two years in this clinic along with other clinics throughout the country before it was put on the market. Phenurone is now under investigation.

Less extensive extra-mural or clinic treatment care is furnished by the Medical College of Virginia Clinic, headed by Dr. P. H. Drewry and under the direction of the Department of Neuropsychiatry at the Medical College of Virginia. Dr. Drewry is assisted by a large staff. Here, twice weekly, patients are examined and furnished with drugs for the control of their epilepsy. When indicated electroencephalography is available and, of course, all the diagnostic facilities of the Medical College of Virginia are available to the patients in this clinic. In addition, there are available consultations with other specialists in neurology, neurosurgery, and internal medicine. This clinic treats over a hundred new epileptics during each fiscal year. The total annual number of epileptic *visits* to this clinic has not yet been estimated.

The Federal agencies located in Virginia (par-

ticularly the Veterans Administration) have a sizable contribution in the total picture. A small out-patient department is operated in the Richmond area by Dr. Wilfong and Dr. Kanich. However, under present laws veterans whose epilepsy is not service connected are not eligible for out patient treatment for this condition from the Veterans Administration. McGuire Veterans Administration Hospital furnishes diagnostic and consultation service for veterans who develop epilepsy and short term hospitalization can usually be provided for a veteran whose epilepsy is new, or requires hospital study (when beds are available). The hospital in Roanoke, Virginia, of course, cares for service connected epileptics who have psychoses.

The general hospital in Richmond (McGuire) has been designated as one of the three national epileptic "centers" and, accordingly, a large number of epileptic patients are treated and studied here. The department which handles the problem is under the direction of Dr. Benedict Nagler, assisted by Dr. James B. Funkhouser. In addition to the study of epileptic veterans, a training program for technicians and physicians in electroencephalography is given at McGuire Veterans Administration Hospital.

An insignificant number of epileptics, of course, is provided domiciliary care in the soldier's home at Kecoughtan, Virginia.

It can be readily seen that by far the largest number of epileptics in Virginia are treated by the general practitioner and by certain specialists as private cases. It is not the purpose of this paper to discuss these cases. There is no doubt that patients who can afford private medical care will get much better attention from private doctors because the public facilities, both Federal and State, are extremely meagre. It is not the intent of any of the above mentioned State or Federal agencies to compete with the excellent private management of epileptic patients whenever private care is financially possible for the individual and his family.

An analysis of the problems encountered in the care of epileptics has been made by the authors and will be briefly discussed here. First, there is considerable difficulty encountered in integrating the above agencies because of duplication of effort, lack of complete statistical reporting, differences in terminology. For example: Some clinics and institutions used the word "epilepsy" and others "convulsive disorder." (For the same clinic—the Medical College of Virginia—the State Board of Mental Hygiene and Hospitals listed only 72 new cases during the same fiscal year that the Medical College of Virginia reported 106 epileptics.)

The name "epilepsy" is unfortunately associated with stigma. Well meaning people have attempted to make popular the name "convulsive disorder" in order to "de-stigmatize" the epileptic problem. However, petit mal, psychomotor and akinetic attacks, are epileptic in character, though not convulsive. There are no clinically observable convulsions incident to these latter diseases. Therefore, many of these other epilepsies are not reported as convulsive disorders.

Another difficulty frequently encountered is in obtaining liaison with the practicing physician. As reported, the anti-convulsive clinic at the University of Virginia has made the best effort in this direction. The Veterans Administration Hospital in Richmond is able to give complete summaries in each case if the epileptic is willing to sign consent for the release of information to the family physician and summaries are forwarded to the family physician when the patient is willing for this information to be released. The Medical College of Virginia, of course, makes reports to the referring physicians (with the patient's consent).

However, it is our experience that most physicians are not aware of the importance and magnitude of the problem and are indifferent to the problem of the epileptic. The social agencies in many instances show a lack of interest and an attitude of hopelessness toward the problem, possibly because of their continued failure in their efforts to convince employers that epileptics can be rehabilitated and are industrially useful.

High on the list of difficulties encountered in the treatment of epileptics by the above described facilities is the lack of funds for the provision of medication to "out-patients". The State institutions, of course, are seriously hampered and crippled by the insufficient amount of money provided for their intra-mural epileptics and there is no way for the epileptic to have medication after he leaves the hospital. The same difficulty in obtaining extra-mural treatment pertains in the Veterans Administration to non-service connected veteran epileptics.

Probably the greatest difficulty in the care of epileptics (not in a hospital) is the matter of cooperation with employers. Employers are very loath to hire epileptics and our most frequently heard plea from our patients is "do not tell my boss I have epilepsy or I will lose my job." This is not always the fault of the employer. It may be the co-workers who object to working along side an epileptic who may have seizures. Certain organizations, such as the "Good Will Industries" have tried to prove their practical employability by direct facts. However, even in a recently published book of Ruskin Taylor's "New Hope for the Handicapped", the social problem of the epileptic's vocational readjustment is discussed only in a few words. Organizations such as the International League against Epilepsy, American Epilepsy League and several good lay organizations are working on this tremendous problem with some recent success.

Plans have been made in Virginia which may help solve a great many of these problems detailed above. An increase in hospital facilities for Negro patients is already approved in a development at Elko, Virginia.

In a recent report to the Governor by the Duke Commission it was recommended that a centrally located "Institute for Epilepsy" (with departments for white and Negro patients) be set up in cooperation with the Department of Neurology and Psychiatry of the University of Virginia. This would be a large step in the direction of integrating the state's scattered efforts in behalf of the epileptics. It might be possible that this institute could take the initiative in establishing a closer cooperation between clinics, hospitals and institutions, both Federal and State and private, thus avoiding duplication of effort. Such an Institute could set up an educational program to arouse and maintain interest in the social problems of the epileptics. It is certain that a centralized reporting of epilepsy would make possible a better statistical survey and promote the exchange of material, which would be of mutual advantage to all interested agencies. Although some progress must wait until the various theories and "schools" of epilepsy have been solidified as to terminology and therapy, a central institute could certainly be instrumental in helping to establish a definite classification and treatment routine.

Progress has been made in the integration of the efforts of the State Board of Mental Hygiene and Hospitals, the medical colleges and the Veterans Administration hospitals, as evidenced by this paper. However, much more can be accomplished in this field.

In conclusion, the outlook for the epileptic in Virginia is, despite all the disadvantages cited, very good. New advances in diagnosis, better drugs, and a wider knowledge on the part of the doctors themselves in the treatment of this condition in the past decade, have caused the epileptic to suffer fewer and less severe convulsions. It is not too optimistic to hope that the sustained effort of all who are working in this field, both layman and doctor, may eventually cause the general public to lose its superstitious fear of "the sacred disease". When this is accomplished a magnificent goal will be won.

A.M.A. Supports Bill Banning Sale of Fireworks.

The American Medical Association has filed a statement with the House Judiciary Committee supporting its bills restricting the sale of fireworks.

The statement said that the medical profession for many years "has been concerned with the serious menace to life and health resulting from the use of fireworks." It added that the Association is in favor of proposals such as the bills under consideration, "which are designed to alleviate health hazards of this type."

The bills would prohibit the shipment of fireworks into any state or political subdivision in which their sale is prohibited, unless intended for public displays or other purposes specifically authorized by law.

ENDOMETRIAL HYPERPLASIA IN ELDERLY WOMEN WITH HEPATIC CIRRHOSIS*

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It is well known that in women during the reproductive period one of the functions of the liver is to destroy or excrete estrogens, and that this function may fail in chronic liver disease, resulting in various manifestations of hyperestrinism.

Among our routine autopsies, however, I recently saw two cases of chronic liver disease associated with endometrial hyperplasia in elderly women of 69 and 71 years of age. This prompted me to investigate other cases of chronic liver disease in elderly women.

The enquiry was limited to women over 60 years of age. Unfortunately in many of the autopsies performed previous to 1940 routine sections of endometrium were not made. We found however 16 cases suitable for examination (Group B). For comparison with these, 16 control cases were also examined (Group A) consisting of women of similar ages but without known liver disease.

TABLE I

SHOWING THE ASSOCIATION OF ENDOMETRIAL HYPERPLASIA WITH CHRONIC LIVER DISEASE IN ELDERLY WOMEN

	Group A (Controls)		*Group B* (Hepatic cirrhosis)	
1. Numbers in age groups:				
60-64	2		2	
65-69	9		9	
70-74	5		5	
Total	16		16	
2. Types of liver cirrhosis		None	Portal	6
			Cardiac	5
			Biliary	5
3. Condition of Endometrium				
Normal (senile atrophy)	7		1	
Hyperplasia +	6		3	
Hyperplasia ++	3		5	
Hyperplasia +++	0		7	

The results are set out in Table I. The cirrhoses found were of the portal, cardiac and biliary types. For purposes of comparison the endometria were divided into four groups, i.e., normal (senile atrophy at the ages of these patients) and hyperplasia of three degrees, indicated by the number of plus signs. It will be seen that whereas in the control group there are seven normal endometria, in the cirrhosis group there is only one. The cirrhosis group, however, contains seven high grade hyperplasic endometria, but the control group none.

Clinically, neither bleeding nor other gynecological manifestation was noted in any of the women with cirrhosis and endometrial hyperplasia.

In the light of present knowledge these facts would seem to indicate a relative hyperestrinism in the cirrhosis group.

Since estrogens are secreted by both the ovary and the adrenal cortex, and the former would appear to be excluded in women over 60 years of age, it seems that the adrenal cortex continues to secrete estrogens in women even into old age, but that the liver normally keeps these hormones at levels too low to produce known physiological effects. In certain forms of liver disease, however, this regulatory action is lost and some degree of endometrial hyperplasia occurs, but without clinical manifestations.

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LABORATORY AIDS IN THE DIAGNOSIS OF BONE LESIONS

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It cannot be denied that modern medicine is becoming more and more dependent on the clinical laboratory for aids in diagnosis. Even the most astute practitioner who utilizes all of his five senses to aid in diagnosis is not infrequently forced to depend on certain laboratory procedures for help. The clinician practicing in urban areas is more fortunate in this respect than his fellow practitioner in rural areas, who does not have hospital laboratory facilities readily available to him. The diagnosis of diseases producing primary or secondary lesions in the bony skeleton has always presented many difficult problems. While it is true that with the use of a careful history and physical examination and X-rays, a careful clinician can establish the diagnosis of many bone diseases, in certain cases it is possible to arrive at a correct diagnosis only by a correlation of all procurable data, including certain laboratory studies. Laboratory procedures are becoming more and more expensive and there are relatively few patients who can afford an expensive outlay for diagnostic laboratory tests. The physician in a rural area, referring a patient with a bony lesion to an urban hospital, should reasonably expect the period of hospitalization and hospital expense, including laboratory procedures to be kept at the minimum possible. It is the purpose of this paper to so present this subject as to afford an understanding of the interpretation of certain departures from normal laboratory values in the diagnosis of bone lesions.

There are many valuable laboratory tests which are of considerable importance in aiding the clinician to arrive at a correct diagnosis of bone lesions. Valuable as these laboratory aids may be, they are of relatively little value unless they have been preceded by a thorough history and physical examination. With these as a background, the clinician is better able to decide which laboratory examinations to request. The value of any laboratory examination is dependent, primarily, on the reliability and accuracy of the technician performing the respective test. This is particularly true of determinations of blood calcium, phosphorus, and alkaline and acid phosphatase, as these tests are subject to considerable range of laboratory error, and it is suggested that repeat tests be requested in any case in which it is felt that the original examination may have been subjected to laboratory error beyond the control of the technician. The clinical judgment and diagnostic acumen of the physician can save many unnecessary tests and expense to the patient in this respect.

The value of good X-rays in the accurate diagnosis of primary or secondary bone lesions is paramount. In ordering X-rays the roentgenologist should be afforded the benefit of any available clinical or laboratory studies, and he, in turn, is obligated to furnish the clinician with X-ray films of excellent quality and detail.

In considering the differential diagnosis of any bony lesion, the clinician should mentally break the diagnosis down into four broad classifications; (1) Infectious, (2) Metabolic, (3) Neoplastic, (4) Lesions of undetermined etiology. Each of these classifications can then be broken down into the various pathological processes falling within their respective groups. Before considering the various disease processes which produce either primary or secondary bone lesions, it will be well to tabulate the various laboratory examinations which can be of help to the clinician in arriving at a correct diagnosis. As mentioned previously, the ordering of all of such tests in any one case is not only financially prohibitive, but is also an expression of poor clinical judgment on the part of the physician. Generally speaking, the following laboratory examinations will, in the very great majority of cases, furnish the physician with the necessary information to arrive at a correct diagnosis.

(1) *Complete blood count:* To include total red cell count, total white cell count, hemoglobin and a careful differential white blood count, based on the counting of a minimum of one hundred cells seen

in the stained smear.

(2) *Blood serology for syphilis:* Either a Wassermann, Kahn or a Hinton test.

(3) *Sedimentation rate:* This is normally below fifteen millimeters in sixty minutes for children and below ten millimeters in sixty minutes for adults. It is known that the speed of sedimentation of the erythrocytes is increased in individuals suffering from inflammatory lesions. While there is no uniform agreement as to the cause of this phenomenon, it is believed that the infection present releases products into the blood stream which upset the suspension stability of the erythrocytes in the plasma.

(4) *Sickle cell preparation:* This is of particular value in Southern sections of the United States. Here peculiar sickle shaped erythrocytes are seen in wet smear preparations of patients (usually Negroes or individuals of Mediterranean extraction) suffering from a normocytic, normochromic anemia with an increase in the reticulocytes and basophiles.

(5) *Blood serum calcium:* (Normally a constituent of the blood serum and not of the cells.) Normal values range from nine to eleven milligrams percent in adults and from eleven to 12.5 milligrams percent in children. Parathormone from the parathyroid glands regulates calcium metabolism and maintains a definite level of calcium in the blood. (This is dependent upon an adequate supply of vitamin D.)

(6) *Blood serum phosphorus:* Also normally a constituent of blood serum. Normal values are from 2-4.5 milligrams percent in adults and 4-6 milligrams percent in children.

(7) *Blood serum alkaline phosphatase:* Normal value 1.5-5 Bodansky units in adults. In children, the value will be from 5-12 Bodansky units, depending on the rate of growth of the child. This enzyme, normally found in the blood serum, is increased by osteoblastic activity, and is capable of liberating inorganic phosphorus from organic phosphorus compounds. It is also instrumental in the formation of calcium phosphate, which is deposited in the proteinic bone matrix during the process of bone formation. Alkaline phosphatase is produced by the osteoblasts and the serum content of alkaline phosphatase is an indicator of the activity of these cells. Thus, in lesions where there is rapid bone reproduction, an increase in serum alkaline phosphatase would be expected. This enzyme is excreted in the bile and its serum level is therefore raised in jaundice and liver damage.

(8) *Blood serum acid phosphatase:* This enzyme is produced in the prostate gland, in the male. It has also been reported to be present in females, in minute quantities. The definite origin of acid phosphatase in females is unknown at present. The normal serum content is 0-1.0 Bodansky units. As far as is known, this enzyme only enters the circulation in considerable quantities when a malignancy of the prostate ruptures the capsule of the prostate gland.

(9) *Total blood serum proteins:* This is an expression of the total protein content of the serum, expressed in grams per 100 cc. of serum. Normal values are from 6.0-8.0 grams per 100 cc. of serum.

(10) *Serum albumen-globulin ratio:* The total serum protein is composed of albumen and globulin fractions in the approximate ratio of 2.5-1.5 albumen over globulin. In diseases producing a decrease in the total serum protein, the ratio of albumen to globulin may remain constant, but in still other diseases, with a normal or elevated total serum protein, the relationship of albumen and globulin may be altered, or actually reversed with a greater amount of globulin present than albumen.

(11) *Routine urinalysis:* To include specific gravity, reaction, qualitative albumen and sugar and microscopic analysis for presence of cells or casts.

(12) *Urinary calcium determination:* (Sulkowitz test). To be of value, this test should be determined on a twenty-four hour aliquot specimen. Normally from 0.1 gram to 0.3 gram of calcium is excreted daily. The urinary calcium excreted represents 10% to 30% of total excretion of calcium in normal individuals, the remainder being excreted in the feces. Calcium in the body can be regarded as a threshold subject. If the concentration of calcium in the serum falls below 8 mg. percent, none will be excreted in the urine. When the serum concentration is within normal limits (9-11 mg. percent) and the patient ingests a normal amount of calcium, the urinary excretion should be around 150-200 milligrams daily. On the other hand, when the serum calcium increases above 11.5 mg. percent, the amount of calcium in the urine is always increased.

(13) *Urinary phosphorous determination:* Normally 1-1.5 grams daily. This is usually excreted in the inorganic state. This determination should also

be based on a twenty-four hour aliquot specimen.

(14) *Bence-Jones protein determination:* This is a heavy proteose found in the urine in certain pathological states. This protein precipitates at sixty degrees centigrade and redissolves again at one hundred degrees centigrade. It apparently originates in the bone marrow and its presence in the urine, in states of rapid bone destruction and replacement of bone marrow by pathological cells, is of considerable diagnostic value.

(15) *Bone marrow smear preparation:* Smears of bone marrow obtained from the sternum, ribs, tibia, etc. In questionable bony destructive lesions, examination of such smears by a competent hematologist will frequently furnish invaluable aid in establishing the correct diagnosis.

The above fifteen laboratory examinations, or tests, combined with a good history and physical examination, plus roentgenograms of good quality will furnish the clinician with diagnostic aids to guide him in making a correct diagnosis. It is not to be implied that even with all the above armamentarium, the correct diagnosis can be made in every instance. Surgical biopsy and histological examination by a good pathologist, of the lesion in question, remains the undisputed criteria for the correct diagnosis. However, this should be held in reserve by the clinician for those questionable cases in which a diagnosis cannot be correctly established by clinical, X-ray and laboratory methods.

Lesions of infectious origin:

1. Ostomyelitis, acute, pyogenic, hematogenous type.
2. Osteomyelitis, subacute or chronic, pyogenic, hematogenous type.
3. Brodie's abscess.
4. Tuberculous osteomyelitis.
5. Syphilitic osteitis.
6. Osteomyelitis (usually localized) of fungicidal or other unusual infectious origin (actinomycosis, blastomycosis, coccidiomycosis, sporotrichosis, etc.)

1. *Osteomyelitis, acute, pyogenic, hematogenous type:* (A detailed history and physical examination are invaluable here.)
   (a) Secondary anemia (may drop as low as 2-3 million R.B.C. in severe cases).
   (b) Increased total white blood count, may be as high as 30-40,000 in the most acute cases in children, with a correspondingly high polymorphonuclear count.
   (c) Increased sedimentation rate: May be as high as 40-50 mm. in sixty minutes in fulminating cases.
   (d) Urine may show some albumen and an occasional toxic granular cast.
   (e) Blood cultures will be positive in cases with active bacteremia or septicemia.
2. *Osteomyelitis, subacute or chronic, pyogenic hematogenous type:*
   (a) Moderate secondary anemia: May be very marked in long standing cases.
   (b) Moderately increased total white blood count (10-18,000) with corresponding increase in polymorphonuclear cells. This will, in a large measure, be dependent upon the chronicity of the lesion and the resistance of the patient to the infecting organism.
   (c) Moderately increased sedimentation rate (15-30 mm. per sixty minutes).
   (d) May have slight albuminuria with an occasional cast.
   (e) If lesion has drained for a long period of time, there may be a decrease in the total serum proteins.
3. *Brodie's abscess:*
   (a) Slight increase in total white blood count with little or no corresponding increase in polymorphonuclears.
   (b) May have slight increase in sedimentation rate, if in an acute exacerbation.
4. *Tuberculous osteomyelitis:*
   (a) Secondary anemia which may be very marked in children.
   (b) Little or no increase in total white blood count (may have moderate leukopenia) but will usually have some increase in lymphocytic count.
   (c) Considerable increase in sedimentation rate, particularly in children. In the acute or active phase of tuberculous osteomyelitis, there may be a gradual increase in the sedimentation rate over a period of days or weeks. The sedimentation rate can be very helpful in determining the activity of the lesion and resistance of the patient to the infection present.
   (d) May have albuminuria with or without

casts, in an acute fulminating case, or in cases of long chronicity.

5. *Syphilitic osteitis:*
   (a) Positive complement fixation or flocculation tests.
   (b) May have slight leukocytosis with increased ratio of lymphocytes and monocytes in active bony destructive phase.
   (c) Slightly increased alkaline phosphatase in active cases. This may be a very important diagnostic point in the diagnosis of a questionable bony destructive lesion with a positive serology. Apparently the increased alkaline phosphatase is an indication of the attempt of the osteoblasts, at the area of the skeleton involved, to repair the local bony damage being wrought by the infection, but it is also to be remembered that associated liver damage is not infrequently seen in this disease and may also account for some rise in the serum alkaline phosphatase.
6. *Osteomyelitis* (usually localized) of fungicidal or other unusual infectious origin (actinomycosis, blastomycosis, coccidiomycosis, sporotrichosis, etc.). Here the laboratory values will, to a large extent, be expressive of the virulence and the acuteness of the infection present.
   (a) Usually will have a secondary anemia which may be rather marked in an infection of long standing.
   (b) Slight to moderate increase in total leukocytes.
   (c) Increase in eosinophiles in differential count (not always constant).
   (d) Decrease in total serum protein if infection is of long standing and there has been drainage from the granulomatous site.
   (e) Urine may show evidence of long chronic infection by albuminuria and a few scattered granular casts.
   (f) Sedimentation rate usually increased to a moderate extent in these infections.
   (g) Bacteriological studies are of the greatest aid in the diagnosis of these lesions.

Lesions of metabolic origin:

1. Hyperparathyroidism (Von Recklinghausen's disease) (parathyroid adenoma).
2. Juvenile rickets (due to insufficient intake of vitamin D).
3. Renal rickets.
4. Osteomalacia.
5. Osteoporosis.

1. *Hyperparathyroidism* (*Von Recklinghausen's disease*) (*parathyroid adenoma*).
   (a) Elevated serum calcium. May go as high as 15-25 milligrams percent.
   (b) Decrease in serum phosphorus. May drop as low as 1-2.5 milligrams percent (this may increase later in this disease if renal impairment develops).
   (c) Increase in urinary excretion of calcium.
   (d) Increase in urinary excretion of phosphorus.
   (e) Increase in serum alkaline phosphatase (if bone lesions are present). It may go as high as 40-50 Bodansky units in very active state of disease.
   (f) Excretion of calcium in stools decreased. In accidental surgical removal of the parathyroid glands, the reverse values are found, namely, drop in serum calcium and elevation of serum phosphorus. If the calcium drops and the phosphorus remains normal, it probably does not mean a loss of parathyroid hormone, but more likely represents blood chemical changes due to steatorrhea.
2. *Juvenile rickets* (*due to insufficient intake or absorption of vitamin D*).
   (a) Low serum calcium (parathyroid glands cannot metabolize calcium in absence of vitamin D).
   (b) Normal or slightly decreased serum phosphorus.
   (c) Slightly increased serum alkaline phosphatase.
   (d) Absence of calcium in the urine (total excreted calcium is in the stools due to improper metabolism of calcium).
3. *Renal rickets:* Secondary bone changes occurring as a result of altered calcium and phosphorous metabolism due to inability of the kidneys to function properly in chronic nephritis.
   (a) Serum calcium decreased.
   (b) Serum phosphorus increased.
   (c) Increased excretion of calcium in stools.

(d) Decrease or absence of calcium and phosphorus in the urine.
(e) Increase non-protein nitrogen and blood urea.
(f) Secondary anemia.

4. *Osteomalacia:* A bone condition almost rare in this country and seen most commonly in the Far East and Oriental countries; characterized by bony changes secondary to poor dietary intake with poor calcium phosphorus and vitamin D metabolism.
   (a) Decreased serum calcium. Has been known to be as low as five milligrams percent.
   (b) Low to normal serum phosphorus.
   (c) Slightly elevated serum alkaline phosphatase (reparative mechanisms of bone remain normal).
   (d) Decreased excretion of calcium in urine, increased in stool.
   (e) Decreased total serum protein.
   (f) Such cases usually will have anemia and other changes secondary to malnutrition. (In the adult form of this disease, formation of new bone matrix will proceed normally, but there will be little or no calcium deposition in this matrix, due to improper metabolism.) In patients with malignancies of the stomach and intestines, but without metastases to the skeleton, there may be secondary bony changes similar to osteomalacia, due to faulty absorption of food. In such cases the administration of high doses of calcium, phosphorus and vitamin D will be followed by a markedly increased urinary excretion of calcium, whereas in osteomalacia, the urinary calcium will not be increased.

5. *Osteoporosis:* This extremely interesting, yet not well understood, metabolic condition is frequently confused with other secondary bone manifestations; that is, hyperparathyroidism, osteomalacia, multiple myeloma, semi-starvation, immobilization, Cushing's syndrome, etc. In this condition there is actual loss of bony volume and substance, which formerly was believed due to absorption of calcium and phosphorus, but which is now believed to be an actual decrease in bone formation in the presence of constant physiological bone destruction. Here normal bone destruction proceeds as usual, but protein metabolism is decreased with diminution in the amount of bone matrix manufactured and, consequently, a decrease in total bone volume with resultant calcium and phosphorus loss. (That these changes may be in response to adrenal cortical, gonadal or ovarian dysfunction is still under investigation.) The serum calcium and phosphorus and alkaline phosphatase values remain normal; however, a normal alkaline phosphatase value here distinguishes osteoporosis from osteomalacia. There is an increased excretion of calcium in the urine. In osteoporosis of immobilization there is an absence of the normal stress and strain on the skeleton, with resultant less demands on osteoblastic activity. Here, however, there is frequently found an increase serum calcium value in addition to increase of urinary excretion of calcium.

Lesions of undetermined etiology (but probably related to metabolic dysfunction).

1. Osteogenesis imperfecta (fragilitas ossium).
2. Osteopetrosis (marble bones) (Albers-Schonberg disease).
3. Gaucher's disease.
4. Melorheostosis.
5. Hand-Schuller-Christian disease (xanthomatosis) (lipid granulomatosis).
6. Eosinophilic granuloma.

1. *Osteogenesis imperfecta* (fragilitas ossium): A fairly uncommon, congenital disease of hereditary origin, believed to be due to faulty hypoplasia of the mesenchyme. Serum calcium, phosphorus and alkaline phosphatase values are all normal, although there may be elevation of the alkaline phosphatase value, following the frequent fractures associated with this disease.

2. *Osteopetrosis* (Albers-Schonberg's disease), (marble bones). Heredo-familial disease of unknown etiology, characterized by marked increased density of all bones, including the skull. The underlying defect appears to be an inability to resorb bone when new bone is laid down, so that during growth, the old bone is not resorbed.

(a) Marked anemia—may have erythroblastosis.
(b) Serum calcium and phosphorus normal (occasional case may have slight elevation of serum calcium).
(c) Decreased excretion of calcium and phosphorus in urine.

3. *Gaucher's disease.* This heredo-familial disease of the reticulo-endothelial system produces secondary bone changes, usually most marked in the femoral shaft and femoral neck.
   (a) Mild hypochromic anemia.
   (b) Leukopenia—differential count remains normal.
   (c) Platelet count usually diminished.
   (d) Serum calcium, phosphorus and alkaline phosphatase values are all normal.
   (e) Bone marrow biopsy, usually shows typical large multinucleated cells of endothelial origin (Gaucher's cells).
4. *Melorheostosis:* A very strange uncommon disease producing hyperostosis and characterized by long, irregular new bone formation simulating the molten wax of a candle and extending along one margin of a long pipe bone. It is a disease of long chronicity and all laboratory values are within essential normal limits. The diagnosis of this lesion should be made by typical X-ray findings alone.
5. *Hand-Schuller-Christian disease.* (xanthomatosis) (lipid granulomatosis). This is another disease of disturbance of the reticulo-endothelial system which produces areas of rarefaction in the membranous bones of the skull, with occasional involvement of other bones. (Letterer-Siwe's disease—another entity of granulomatous origin, with usually fatal outcome before the age of two, is considered by some to be the precursor of Hand-Schuller-Christian disease).
   (a) Secondary anemia (due to deposition of lipid material in bone marrow).
   (b) Mild leukocytosis in very active cases.
   (c) Increased blood cholesterol.
   (d) Low specific gravity of urine. (Diabetes insipidus is one of the symptom complexes of this disease.)
6. *Eosinophilic granuloma.* This interesting clinical entity producing granulomatous changes in one or several bones has been reported with increasing frequency recently. The etiology is obscure and all attempts to isolate a specific causative organism have been fruitless. The lesions may resemble a primary skeletal maligancy, multiple myeloma or metastatic bony carcinoma on X-ray findings alone. There are no definite characteristic laboratory changes occurring in this disease. In acute exacerbations of localized lesions there usually occurs a moderately increased sedimentation rate with corresponding slight rise in total white cell count. No increase in circulating eosinophils has been substantiated.

Lesions of neoplastic origin:

1. Osteogenic sarcoma.
2. Chondrosarcoma.
3. Chondromyxosarcoma.
4. Ewing's tumor.
5. Multiple myeloma.
6. Metastatic bone lesions.
7. Paget's disease.
8. Giant cell tumor.
9. Benign bone cysts.
10. Fibrous dysplasia.
11. Osteoid osteoma.
12. Hemangioma of bone.
13. Enchondroma.
14. Osteochondroma.

1. *Osteogenic sarcoma:* The most common primary malignant tumor of bone. Many classical osteogenic sarcomas can frequently be diagnosed by X-ray findings alone, but all too frequently these lesions may be undergoing anaplasia or metaplasia and do not present a typical X-ray appearance. For reasons of simplicity and brevity, the laboratory values usually found in osteogenic sarcoma, chondrosarcoma, chondromyxosarcoma, etc., are listed herewith together, inasmuch as there is very little change in the laboratory values of these closely histologically aligned lesions.
   (a) Anemia, almost always present, except in very early phases of these malignancies.
   (b) May have leukocytosis with increased polymorphonuclears, if lesion is in rapidly destructive phase.
   (c) Serum calcium and phosphorus will usually be within normal limits unless the le-

sion is rapidly destructive, and, in such instances, there will be an increased serum calcium and possibly phosphorus in response to absorption of these minerals from the area of bony destruction.

(d) Serum alkaline phosphatase is usually elevated to a slight or moderate extent in these malignancies. This is an expression of increased osteoblastic activity which usually accompanies these lesions. In general, the degree of the malignancy of the tumor is expressed by the level of the alkaline phosphatase. Of course, in any of these lesions where the bony destruction is all of an osteolytic character with little or no attempt to repair the local damage done, the serum alkaline phosphatase value will not be elevated.

(e) Increased urinary calcium in highly malignant lesions with rapid bone destruction.

4. *Ewing's tumor.* (Endothelial myeloma). Characteristic tumor of children and young adults. Frequently confused with lesions of infectious origin, reticulum cell sarcoma and osteogenic sarcoma. There are no typically reliable laboratory changes occurring in this very malignant lesion, although anemia is rather constant as the disease progresses, and in the rapidly destructive phase of Ewing's tumor there may be leukocytosis with some increase in the serum alkaline phosphatase. (The diagnosis of Ewing's tumor, even with surgical biopsy, can frequently be in doubt, as even the most experienced pathologists debate as to the histological differentiation between Ewing's tumor, reticulum cell sarcoma and metastatic neuroblastoma.)

5. *Multiple myeloma:* Primary bone tumor arising from myeloid tissue of marrow. Frequently confused with osteoporosis, hyperparathyroidism and metastatic bone lesions.

(a) Marked secondary anemia (2-3.5 million RBC).

(b) Approximately 25% of proven cases have slight leukocytosis.

(c) Differential count will show some increase in mononuclear elements with circulating myelocytes, ranging between 1%-10%. Some reports of finding circulating plasma cells are on record, but their occurrence is very unusual.

(d) Albuminuria. May be very heavy in late stages.

(e) Bence-Jones proteinuria occurs in 50-65% of cases (a negative Bence-Jones protein determination does not rule out multiple myeloma, and an occasional false positive can occur, but a positive Bence-Jones proteinuria is strong evidence in favor of a diagnosis of multiple myeloma). The test should be repeated frequently, as transitory Bence-Jones proteinuria is the rule, rather than the exception, in multiple myeloma.

(f) Usually will have increased total serum protein—7.5 to 8.5 grams. Reversal of the albumen and globulin ratio is not uncommon and is of considerable differential diagnostic value, if present.

(g) Serum calcium, phosphorus and alkaline phosphatase values are usually normal, although an occasional case may have a slightly increased alkaline phosphatase and if there is severe renal impairment, the serum inorganic phosphorus will be elevated as an expression of retention of phosphorus by the damaged kidneys.

(h) Bone marrow puncture and smears reveal typical infiltration by large numbers of plasma cells.

6. *Metastatic bone lesions:* Systemic malignancies with metastasis to the bony skeleton present very difficult differential diagnostic problems. The importance of a good history and a careful physical examination cannot be over-emphasized in these cases. Such bony metastases will be either osteolytic or osteoplastic in nature and, if the involved bone attempts to repair the damage brought about by the metastatic cells, the serum alkaline phosphatase will respond accordingly. Metastases from the prostate will usually provoke osteoblastic activity with a corresponding rise in serum alkaline phosphatase values, plus a rather marked rise in serum acid phosphatase value. On the other hand, metastatic lesions from the kidney, breast, thyroid, lung, etc., are usually osteolytic and show no increase

in the alkaline phosphatase level. In such osteolytic bone lesions with absorption of calcium and phosphorus from the area of destruction, there will result slight elevations of the serum calcium and phosphorus levels. Correspondingly will be found an increased excretion of these minerals in the urine. Even in some osteolytic metastatic lesions there will be some increase of serum alkaline phosphatase, but, in general, the higher the serum alkaline phosphatase value, the more normal are the serum calcium and phosphorus values. It is to be remembered also that with metastatic bone lesions present there very well may be liver metastasis also present and an elevated serum alkaline phosphatase may be indicative of liver damage present. Not every case of metastatic prostatic carcinoma will show an elevated serum acid phosphatase value, but the test should be repeated at intervals, as the great majority of such cases will present an elevated acid phosphatase value sooner or later in the course of the disease. An osteolytic type of bony metastasis may resemble the lesion of multiple myeloma on X-ray and, in such instances, carefully chosen and accurately run laboratory procedures will greatly aid the clinician in distinguishing the two lesions.

7. *Paget's disease* (osteitis deformans): In well developed cases of this very interesting condition with involvement of several bones, the X-ray appearance will be rather characteristic, but in early lesions of Paget's disease or with monostotic involvement, the X-rays will not be entirely characteristic and frequently the lesions of Paget's disease will closely resemble metastatic prostatic carcinoma. The values of serum calcium and phosphorus are within normal limits in the great majority of cases. The alkaline phosphatase value, on the other hand, is almost always elevated in Paget's disease and may go as high as 150-200 Bodansky units in some cases, although values of 20-50 Bodansky units are more characteristic. In Paget's disease, with a pathological fracture followed by immobilization of the fracture, there may occur rather marked demineralization with resultant rise in serum calcium and phosphorus values, with increased excretion of calcium in the urine, but these values are uncommon. In general, the level of serum alkaline phosphatase will remain rather constant in Paget's disease over a period of months or years. In lesions presenting X-ray characteristics of both Paget's disease and metastatic prostatic carcinoma, the presence of an elevated serum acid phosphatase will be helpful in establishing the correct diagnosis. In general, other blood chemistries values and urinary findings are within normal limits in Paget's disease.

The following group of bony lesions present no characteristic laboratory findings. Surgical biopsy and histological examination should be employed to establish the correct diagnosis if the X-ray appearance of the lesions is not entirely characteristic.

8. *Giant cell tumor* (osteoclastoma).
9. *Benign bone cysts.*
10. *Fibrous dysplasia of bone.*
11. *Osteoid osteoma.*
12. *Hemangioma of bone.*
13. *Enchondroma.*
14. *Osteochondroma.*

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401 Medical Arts Building

CLINICOPATHOLOGICAL REPORTS

From the Case Records of the Medical College of Virginia and the University of Virginia Hospitals

Harry Walker, M.D., *Editor*

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Case No.: 74

A 37 year old colored female was admitted to St. Philip Hospital because of fever and aching "all over". Approximately two weeks before admission she developed a sore throat with cough and fever and generalized aching. The sore throat and cough subsided in a few days, but the fever persisted and the aching became more and more severe to the point where the patient was "sore all over". The temperature apparently was sustained though it seemed to be lower in the evenings. She had no chills, no rash, and there had been no change in bowel habits. She had vomited twice.

The patient had been a known hypertensive since a previous hospital admission three years earlier. At that time she was admitted because of suspected pregnancy. Her blood pressure was recorded at 238/148. Her general physical examination was negative except for a mass in the region of the left salpinx and her laboratory studies, including blood count, urinalysis, NPN, Mosenthal and serum proteins, were all normal. A diagnosis of hydrosalpinx was made but the patient refused surgery and was discharged. Some months after this admission she apparently developed congestive failure and the referring doctor indicated that she had been maintained on digitoxin, mercurials and barbiturates. In spite of this treatment she continued to have attacks of pulmonary edema from time to time. She also complained of frequent headaches. She had, however, been getting along fairly well for sometime prior to the onset of the present illness.

She had had five pregnancies in thirteen years, the last five years before this final admission. All were home deliveries and were described as normal.

The patient lived in the country and drank unpasteurized milk. She stated that there were many rats around her home.

Physical Examination: Temperature 101.6. Pulse 130. Respiration 40. Blood pressure 190/120. The patient was well developed, moderately obese, appeared acutely ill and complained of generalized soreness and aching. There was moderate retinal arteriosclerosis with some A-V nicking, but no hemorrhages, exudates or papilledema. The neck veins were slightly distended. The lungs were clear. The heart appeared enlarged with a diffuse PMI in the 5th left intercostal space, 12 cms. to the left of the midclavicular line. There was a gallop rhythm. Also, there was a systolic thrill and a harsh systolic murmur in the 2nd and 3rd interspaces to the left of the sternum and a softer systolic murmur at the apex. The liver was palpable 2 fingers breadth below the right costal margin and was non-tender. The abdomen was otherwise negative as were the pelvic and rectal examinations. There was no edema of the extremities and the pedal pulses were easily felt. No skin eruption was noted but the skin was described as "tight and brawny with generalized tenderness". The joints did not appear involved. There was no significant lymphadenopathy.

Laboratory Data: Urine acid, 1.015 specific gravity, 2+ albumin, negative sugar and acetone, occasional WBC and a few granular casts microscopically. RBC 4,200,000, hbg. 12.5 grams, WBC 21,200 with 98 polys., 1 bas., 4 lymphs., and 4 monos. NPN 41 mgm.%. Sedimentation rate 60 mm. in one hour. Chest x-ray showed an enlarged aortic type heart with a 69% C-T ration and diffuse widening of the aorta. The lung fields were clear. An EKG showed sinus rhythm with a rate of 125 per minute, the P-R interval 0.18 and the Q-S interval 0.08. The above changes were interpreted as left ventricular strain with digitalis effect.

Following admission the patient's temperature remained around 102 (R) for the first five days. The pulse also remained elevated, 100-110/min. Several blood cultures were obtained, all of which were subsequently reported as negative, and the patient was started on crysticillin, 600,000 units every 6 hours, and streptomycin, 0.5 grams every 6 hours. She was continued on digitoxin and given codeine for pain. She appeared to improve somewhat after the first week and her temperature became almost normal. However, she continued to complain of generalized soreness and aching and frequently complained of

pains in her chest posteriorly. A repeat WBC shortly after admission showed 19,800 cells with 79 polys., 5 eos., 1 bas., 12 lymphs., 3 monos. and several repeated counts showed a persistent leukocytosis to as high as 26,000 with a differential similar to the second count. The hemoglobin dropped slowly to around 9 grams. Repeated urinalyses showed no change until the day of death when 10-12 RBC were noted for the first time. The NPN rose gradually to 184 mgm.%.

Repeated chest films showed several patchy densities above the dome of the right diaphragm and, later, a density in the left costo-phrenic angle.

Following the apparent initial improvement the patient started going downhill, became more and more lethargic, and died on the 27th hospital day. An autopsy was done.

DISCUSSION BY DR. WILLIAM B. PORTER.*

Essentially this case is a Negro woman, 37 years of age, who was admitted to St. Philip Hospital apparently acutely ill. Her physical complaints consisted of fever, which followed what was thought to be an upper respiratory infection. The illness progressed, the fever continued, and she complained of soreness all over her body. There were no chills or rash, and there had been no change in bowel habits. She had vomited twice. The patient was a known hypertensive individual, having been in the hospital three years previously with a blood pressure of 238/148, and I presume the discharge diagnosis was essential hypertension. It is interesting that she apparently had a mass in her abdomen and the surgeons were quite anxious to remove it. It was not removed and apparently the mass disappeared spontaneously. This sounds like the patient's judgment was better than that of the surgeons. Another interesting point is that this patient had apparently been kept in contact with, presumably through the out-patient clinic, because the protocol gives us the history of recurring attacks of what was described as pulmonary edema. She also complained of frequent headaches but the final rather paradoxical statement is made that though she had been having recurring attacks of pulmonary edema, she had apparently been getting along quite well prior to admission. This is very interesting and makes one wonder whether the patient was having true pulmonary edema or whether she was having some respiratory disturbance of an asthmatic nature.

The patient had been pregnant five times in 15 years. Her deliveries were at home and from the history nothing unusual happened.

The next statement, which to my mind is probably a red herring, is that the patient drank unpasteurized milk and lived in an atmosphere of many rats.

We have then a patient with hypertension (blood pressure 190/120), probable cardiac insufficiency, fever, tachycardia, and an accelerated respiratory rate. Then we come to what I believe are two significant findings: The first is the absence of any gross changes in the optic fundi and secondly, the presence of diffuse, wide-spread soreness over her extremities. Along with those findings, we note that she has an enlarged heart and a gallop rhythm. These too, I believe, are significant findings. She had murmurs, systolic in time, which one would have great difficulty in evaluating for the obvious reason that a febrile patient, with an enlarged heart, might have murmurs under the conditions existing in this individual, both from a probably dilated as well as hypertrophied heart. There another statement made which I think may also be of considerable importance; that is, the patient's skin was tight and brawny with generalized tenderness. A tight and brawny skin with generalized tenderness would certainly seem significant.

We now come to the laboratory data. I am impressed with some of these findings. In the first place, the urine is abnormal, though the abnormalities are not too specific—low specific gravity and some casts, but with no red cells or white cells. There was no definite anemia at that time, but there was a definite leukocytosis with a very rapid sedimentation rate. I have before me the electrocardiogram on this patient. It indicates to me the findings which one would expect in an individual with an enlarged heart and changes in the heart muscle probably secondary to coronary disease. Perhaps some of the experts would like to look at this tracing. I would not feel that the digitalis effect was too evident in this particular tracing. The changes in the T waves are more suggestive of changes in the heart muscle.

I have glanced at the x-ray films but I would like very much for Dr. Mandeville to discuss them.

*Professor of Medicine, Medical College of Virginia, Richmond.

Dr. Mandeville*—These four films which we have here suggest to me an enormous heart, a very large heart, and I believe there is more enlargement of the left than the right heart. I think there is enlargement of the thoracic aorta. There are a few patchy densities which could be infarcts. I do not see the widespread patchy densities sometimes seen in periarteritis nodosa. I do not think there is anything typical about periarteritis nodosa and from an x-ray standpoint would not have gone overboard for such a diagnosis. There could be congenital heart lesions in the film but there is nothing typical. We have no barium swallow to tell us whether the left auricle is large. In other words, if there are any atrial or ventricular defects, I cannot find evidence of them on these films. So I would have to be satisfied with an enlarged heart, possibly with an aortic lesion, congestion, and, from a pure roentgen standpoint, pulmonary infarcts.

Dr. Porter—It is the type of x-ray which one would expect in any patient with chronic hypertensive disease who had reached the stage of failure.

Now for a brief comment on therapy in this individual. She was treated with antibiotics probably because of the uncertainty as to the diagnosis. She was continued on digitalis, and certain remedies were used for the relief of pain. The patient complained of pain in the posterior chest. I do not know just what that means, but it may be significant. Another interesting thing which may not mean too much, but I think is significant, that her leukocyte count continues to be elevated to as high as 26,000 per cu. mm. Also, there was an increase in the polymorphonuclear count and the appearance in the blood smear of as many as 5% eosinophiles. The presence of 5% eosinophiles with a white count of 19,800 leukocytes would give a total eosinophile count of about 1000 per cu. mm. which is a gross eosinophilia. I think sometimes we are inclined to ignore the presence of eosinophiles because of a small percentage when actually it is important to have an actual eosinophile count. We have in this patient, then, a leukocytosis with an absolute eosinophilia. That may mean something or it may not. It is to be remembered, however, that in patients who have a polymorphonuclear leukocytosis, the presence of an absolute eosinophilia indicates that you are dealing with a rather exceptional situation. The disappearance of the eosinophiles from the peripheral blood in polymorphonuclear leukocytosis is the rule. It is an exception to find an absolute eosinophilia.

After several days this patient gets what seems to be a moderate remission but then reverts rapidly back to her former state with continued fever, soreness and aching. In summary then, we are dealing with a patient who is a known hypertensive who develops a febrile illness, and in whom there is a rapid downward course, particularly as concerns the kidneys and cardiac muscle and this is accompanied by the local phenomenon of either myositis, neuritis, arteritis or perhaps all three, a leukocytosis, an eosinophilia—again all of this occurring in a patient who has known hypertensive vascular disease.

Briefly, I would only like to mention what I imagine were the diseases thought of when this patient entered the hospital. Due to her peripheral symptoms, I am perfectly certain that the resident staff, and whoever else saw the patient thought of Weil's disease. The patient's intimate association with rats would also bring this disease to mind. The things against Weil's disease are the degree of leukocytosis and the late development of renal failure without any evidence of jaundice or hepatic failure. I think it is sometimes logical for one to make a diagnosis of Weil's disease without evidence of hepatic failure, but Weil's disease attacks the kidney and liver at the very outset of the disease. It is not something that the patient develops later in the course of her illness. I, myself, would therefore discard Weil's disease as a possibility.

The next disease which was obviously thought of is trichinosis. I am certain that someone thought of this to explain what had happened to the patient to account for the acute symptoms she presented. She was already known to have hypertensive disease. Trichinosis does not kill one that way. Almost invariably, and I would say always, severe trichinosis is accompanied by gastro-intestinal symptoms at the onset of the disease and, in addition to that, those patients who have trichinosis develop a leukocytosis of 25 to 30 thousand, maybe, but they do not have 5% eosinophilia, they have 15 to 20% eosinophilia. I merely mention trichinosis as a disease which may produce fever and muscular pain, but I do not think this patient had this disease.

The next disease, which was certainly thought of

*Dr. Frederick B. Mandeville, Professor of Radiology, Medical College of Virginia, Richmond.

in this patient is so-called dermatomyositis. Dermatomyositis is a strange disease; an inflammatory disease involving the skin and the muscles, but it is rarely so rapidly fatal. There is marked thickening of the skin sometimes with a dermatitis, and marked tenderness of the muscles. Leukocytosis, if present is mild. The disease does not produce any particular change in either the heart or the kidney. Scleredema was probably thought of but scleredema does not act this way clinically. Scleredema is an afebrile disease running a very long and progressive course. It is characterized by both gastro-intestinal and cardiac complications usually of a very serious order, but I do not recall ever seeing a patient with scleredema who acted in the same way as this patient did.

I think one should think about those conditions which may occur in a patient with vascular disease which makes that vascular disease prove fatal in a very rapid manner. The first one of these things that most of us here would think of would be the so-called malignant phase of essential hypertension. It is one thing that can kill patients with vascular disease rapidly. However, there are so many things in this patient against that, that would not be explained by such a diagnosis. For example, I have never seen a patient with malignant hypertension who died in renal failure who did not show gross changes in the optic fundi. The second thing is that it is an afebrile disease. The third point is that the patients ordinarily do not have any peripheral symptoms. I think, therefore, that this condition is out of the question because it will not explain anything except death, and renal failure.

Another cause for rapid decadence in patients with vascular disease is the development of pyelonephritis. We have been more and more impressed with the importance of pyelonephritis as an intercurrent factor producing a rapid decline in patients with essential hypertension. Pyelonephritis is, of course, a possibility, but I cannot imagine making that diagnosis in the absence of urinary changes which would suggest that possibility. There was no pus in the urine and only in the last specimen were there any red cells. The diagnosis of pyelonephritis in a febrile patient with a leukocytosis of 25 to 30 thousand without pus, almost gross pus, in the urine would be almost an absurdity. Pyelonephritis is, however, one of the causes of a rapid exodus in patients with essential hypertension.

I always like to go about discussing a case as it is recommended in a book I have on psychoneurosis. The author has a paragraph in this book at the beginning of a chapter on psychoneurosis on the diagnosis of psychoneurosis. He states that a diagnosis of psychoneurosis by a process of elimination is fundamentally unsound and is usually totally incomplete. The diagnosis of a psychoneurosis should be made by frontal attack for several obvious reasons. In the first place, if you make the diagnosis of psychoneurosis by frontal attack, you do so because you recognize the sum total of this individual's problems, and size the patient up as having that sort of a malady. This is so important because there is no reason why psychoneurosis may not have an associated disease or condition which may have nothing to do with his presenting symptoms. When you go about such a diagnosis by the process of elimination, you have missed the main issues.

In this particular patient then, I would rather approach the diagnosis from this point on as a direct frontal attack. I will do so by trying to decide whether there is any one disease which will account for all of the symptoms and signs which this patient had. In the first place, we have a patient with a febrile disease characterized by rapid decadence of the heart muscle and the kidneys and probably at the same time with a peripheral lesion of arteritis, neuritis or myositis. We also have an individual who has hypertension. Now, it seems to me that when you are confronted with a patient of this kind who in addition to these things has a leukocytosis and an absolute eosinophilia, that anyone who did not consider the diagnosis of pariarteritis nodosa would be greatly amiss. Periarteritis nodosa can explain everything in this patient. That may not be what the patient had, but unless it is periarteritis nodosa, it will be very difficult to explain many of the symptoms and signs which this patient had.

What is periarteritis nodosa? I am thinking now about the clinical disease as described by Kussmaul and Maier in 1883. There are many diseases which have periarteritis or panarteritis, but I am beginning to get the idea in my head that in many instances the pathologists should not make an unequivocal diagnosis of periarteritis nodosa without knowing something of the clinical history of the patient. What we are trying to describe is a disease which has the

following clinical characteristics:

1. It is a disease which has the clinical course of an infectious process, fever, leukocytosis as a rule, and other symptoms of an infectious process.
2. It is a disease which has regional symptoms depending on the degree of involvement of the various vascular structures supplying these areas.
3. At sometime or another in the course of this disease, there is a leukocytosis and an eosinophilia. This condition may be present at one stage of the disease, and disappear entirely within a week or ten days later. I have followed one patient with what I believed to be periarteritis nodosa for a period of 2 years. That man has had a leukocyte count varying from 30 to 50 thousand with an eosinophile count from 1% to as high as 22%. One reaches a conclusion that if a patient with periarteritis nodosa is followed sufficiently long, they will all have an eosinophilia at one time or another.

I will not take up your time to go into a lot of side issues. I would simply feel that we are dealing with a patient who three years ago had what was believed to be essential hypertension and who now developed the syndrome known as periarteritis nodosa. I think that she died from renal failure and cardiac failure.

Hospital diagnosis: Congenital heart disease (? pulmonic stenosis). Subacute bacterial endocarditis.

Dr. Porter's diagnosis: 1. Periarteritis nodosa.
2. Essential hypertension.

Pathological report: Dr. G. R. Hennigar*.

The heart weighed 600 grams. Both ventricles were obviously hypertrophied, and in addition, there was considerable dilatation of the right side of the heart. The width of the left ventricular myocardium, at the mid-point between the base and apex was 2.3 cms. (normal 1.4-1.6 cms). The width of the right ventricular myocardium at the mid-point between the base and apex was 1 cm. (normal .4-.6 cms.). The right atrium except for some dilatation was not altered. An interesting finding was the presence of a small medial cusp of the tricuspid valve. The tip of the cusp was firmly adherent to the interventricular septum. The chordae tendineae were short and fine (fig. 1).

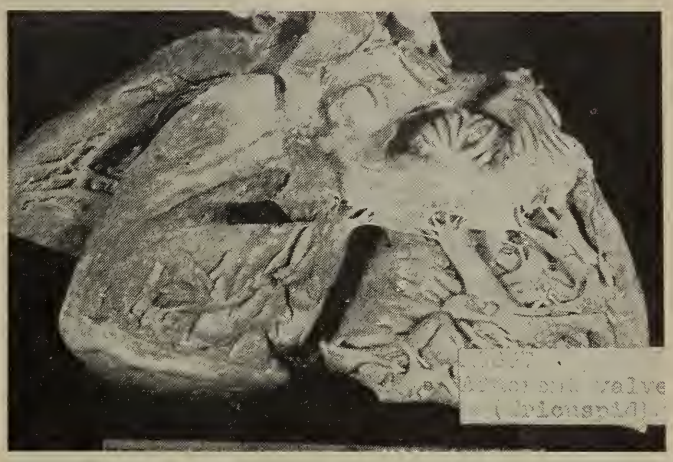

Fig. 1—The right side of the heart is opened. The tip of the pointer shows the tiny chordae and valve cusp adherent to the endocardium of the interventricular septum. The remainder of the chordae are thickened and shortened.

The remainder of the chordae are short and thick. Whether these abnormalities represent a congenital malformation such as that resulting from fetal endocarditis or whether they are manifestations of old rheumatic endocarditis is not clear. Other stigmata of healed rheumatic affection were present in the heart. These comprised periarterial fibrosis around the vessels of the myocardium, subendocardial fibrotic plaques (rheumatic arteritis), and small nodules on the cusps of the aortic and mitral valves. This latter group of morphological rheumatic manifestations, we do not feel were marked enough to cause impairment of cardiac function sufficiently to be clinically significant. The rheumatic arteritis is shown in fig. 2.

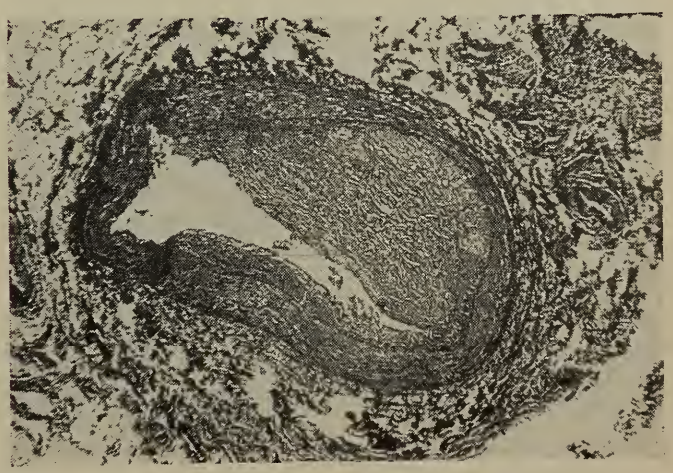

Fig. 2—Rheumatic coronary arteritis. Subintimal foci of connective tissue greatly narrow the lumen of the vessel, Verhoff-van Gieson.

*Associate Professor of Pathology, Medical College of Virginia, Richmond.

At autopsy, small nodules or "beads" were seen along the larger branches of the coronary arteries, especially the anterior branches of the left (fig. 3).

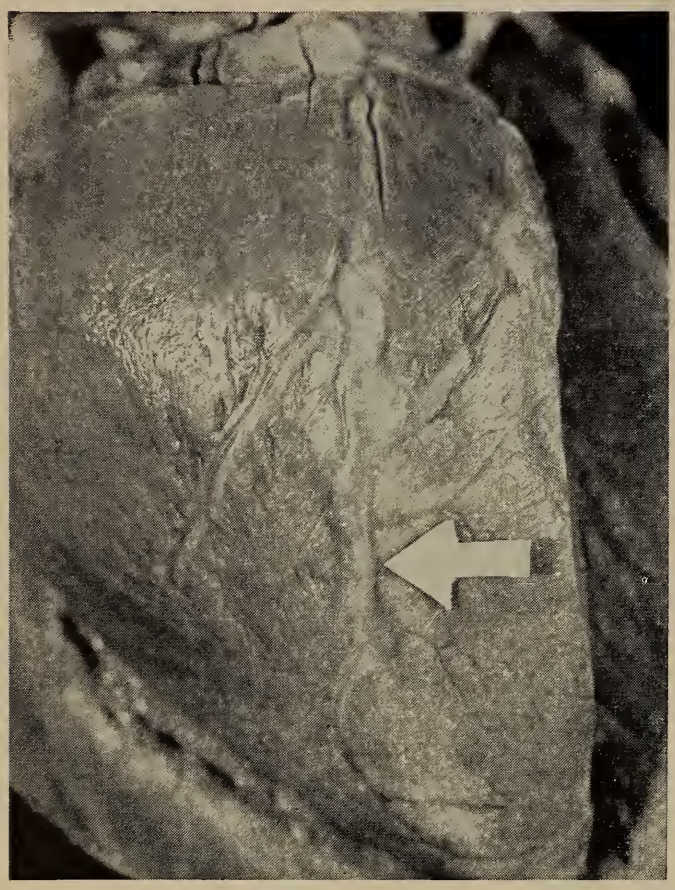

Fig. 3—The arrow points to one of the nodules on a branch of the left coronary artery.

Microscopically, the wall of the vessel and adjacent areolar tissue of the epicardium were converted into eccentric nodules of connective tissue. Elastic tissue stains showed fragmentation of the elastic fibers with herniation of the wall of the vessel outwards. No fresh collagen necrosis of the vessel wall was appreciated.

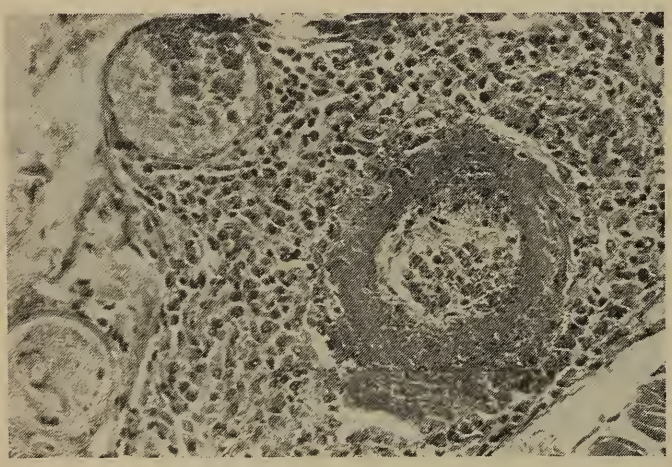

Fig. 4—Vessel of diaphragm. Characteristic necrotizing lesion (collagen necrosis, "fibrinoid" necrosis) seen in acute periarteritis nodosa. The wall is an acidophilic smudge. Granulocytes, as well as lymphocytes are conspicuous in the cellular infiltrate.

In contrast to this "healed" lesion fresh or recent necrotic vessels were found in the diaphragm. Surrounding these was a rich cellular infiltrate consisting of eosinophil and neutrophilic granulocytes, lymphocytes and plasma cells (fig. 4). In addition, in the diaphragm, vessels which showed "fresh" and "healed" lesions combined, in the same vessel, were evidenced (fig. 5). The initial necrosis of the wall

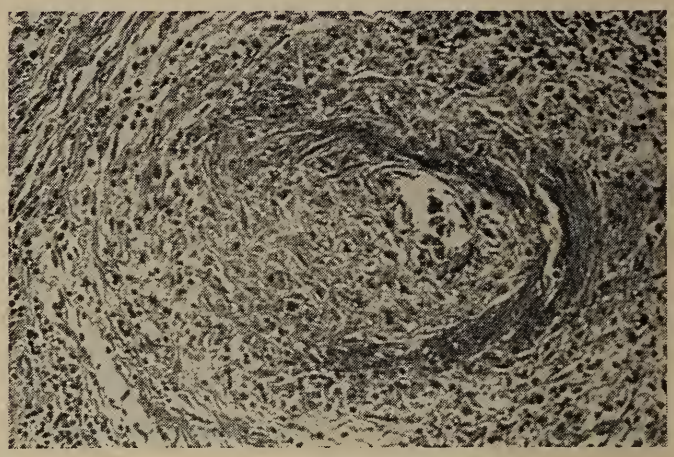

Fig. 5—The wall of the vessel is completely replaced by fibroblasts with narrowing of the lumen. The dark areas in the wall to the right represent recent necrosis.

leads to weakening and aneurysmal dilatations occur. Later these become filled in with fibroblasts (see left hand side of vessel in fig. 5). In this mass of connective tissue granules of hemosiderin and bilirubin are seen; evidence of hemorrhage probably at the time the aneurysm "leaked" or ruptured.

The diagnosis of periarteritis nodosa was made by

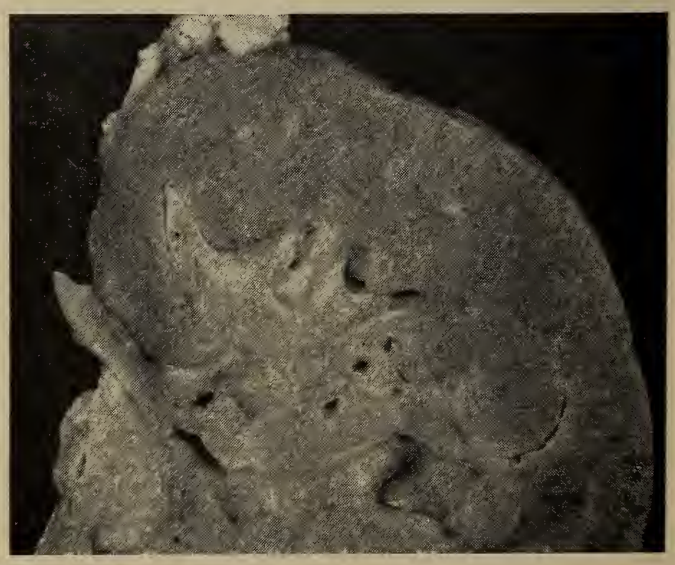

Fig. 6—The vessels at the bases and tips of the pyramids are surrounded by white, translucent "sheaths" of connective tissue.

the prosector, Dr. Jacqueline Kirk on the basis of thick, white, translucent sheaths surrounding the vessels of the kidney, liver and adrenal (figs. 6, 7, 8).

Fig. 7—Note similar "sheaths", perivascular in location in the liver.

Fig. 8—Identical "sheaths" surround the vessels of the adrenal medulla. The periadrenal region is composed of confluent white fibrous tissue.

The microscopic findings in the adrenal consisted of pseudo-tubular change in the zona fasciculata, fragmentation of the reticulum supportive framework, loss of lipoid throughout the cortex, irregular amount of pigment in the zona reticularis. We do not feel that we are able to interpret these microscopic findings other than to say that they are the morphological findings associated these days with adrenal exhaustion as a result of a variety of stressor agents. In hypertension and periarteritis the vessels in the periadrenal fatty connective tissue are constantly and severely involved so that the adrenal parenchymal effects may, at least in part, depend on these vascular changes, rather than directly as a result of the hypertension or collagen disease on the cells, as some investigators have suggested. Certainly, the profound vascular changes would be expected to lead to some degree of hypoxia to the underlying adrenal cortex.

By the same token the kidneys, involved in 80-95% of cases of periarteritis nodosa have no constant gross or microscopic characteristics, for the arteriolosclerosis and arteriolonecrosis of hypertension in far the majority of cases distort the picture.

The pancreas was interesting in that the islets in sections from the body of that organ were very large. This finding may be indicative of some degree of adrenal insufficiency.

We feel that the patient probably died from the effects of the periarteritis and hypertension, more particularly, left ventricular failure and some degree of renal insufficiency.

An understanding of the etiology (or etiologies) and pathogenesis of the clinical group of diseases which selectively insult collagen, is to say the least obscure. That there is a common morphological denominator, namely, collagen ("fibrinoid") necrosis and that there are distinct clinical entities (lupus erythematosus, periarteritis nodosa, rheumatic diseases, etc.) with of course some overlapping, is not disputed. Thus, it would seem that the bulk of "the riddle of the collagen diseases" will have to be solved by other than the morphologists.

Pathological Diagnoses:

1. Periarteritis nodosa, generalized.
2. Left and right hypertrophy and dilatation ventricular myocardium.
3. Adherent medial cusp of tricuspid value to endocardium of the interventricular septum (?congenital, ?rheumatic).
4. Generalized arteriolosclerosis.
5. Arteriolosclerotic nephritis.
6. Healed rheumatic pancarditis.
7. Eosinophilia bone marrow and spleen.
8. Hyperplasia islets of Langerhans.

MEDICAL SOCIETY OF VIRGINIA

Report of Delegates to A.M.A.

The 1951 regular session of the House of Delegates of the American Medical Association was held at the Hotel Traymore, Atlantic City, New Jersey, June 11-15, 1951. For the first time in its history the House included two medical students, president and vice-president, respectively, of the recently organized Student American Medical Organization.

Several resolutions were introduced looking toward creating one class of membership and abolishing the present distinction between members and fellows. No final action was taken, but the matter was referred to the standing committee of the House on Constitution and By-laws, and a report with recommendations may be expected at the interim session of the House in December. Dues for 1952 were set at $25.00 which includes subscription to the Journal.

The very important subject of inspection and accreditation of hospitals concerning which there are several conflicting views again came up for consideration. The previous proposal that a joint commission composed of representatives from the A.M.A., the American College of Surgeons, the American College of Physicians, and the American Hospital Association be formed for that function was adopted. It is expected that this plan will be approved in the near future by the several groups interested.

As reports of officers and trustees indicated that the A.M.A.'s publicity campaign had been successful, it was decided to slow down on expenditure in this direction. However, Whitaker and Baxter will be retained in a consulting capacity. A plan proposed by the Board of Trustees to appoint a committee of prominent laymen to advise the board, particularly as regards the viewpoint of the public in matters pertaining to medical care, was approved.

Other matters considered included health insurance, tax relief for physicians' expense for postgraduate study, relief for medical schools distribution of physicians and distribution of interns. As regards the distribution of interns, an advisory committee to the Council on Medical Education was approved to study the problem and make recommendations.

The House was again addressed by a prominent labor leader, this time Mr. Dave Beck of Seattle, Washington, Executive vice-president of the International Brotherhood of Teamsters. His address entitled, "Government Medicine—Danger Ahead", was broadcast and also printed in the A.M.A. Journal for June 30th. He expressed very forcefully his support of the efforts of the A.M.A. and his opposition to government control of medical care.

Dr. John Cline was installed as president. Dr. Louis H. Bauer of Hempstead, New York, was chosen as president-elect, and Dr. Oscar B. Hunter of Washington, D. C. as vice-president. Dr. David Allman of Atlantic City was elected to succeed Dr. Bauer as trustee and Dr. Walter B. Martin was reelected to the Board for another term. The 1951 Clinical Session and interim meeting of the House of Delegates will be held in Los Angeles December 4-7, 1951.

J. M. EMMETT
H. B. MULHOLLAND
J. M. HUTCHESON
Delegates

MENTAL HEALTH

Joseph E. Barrett, M.D.,
Commissioner, Department of Mental Hygiene and Hospitals.

What Happens to Mental Hospital Patients?*

What is the probability of a patient leaving a mental hospital after admission? This question is often asked. Another question follows: How long do patients remain in the hospital after admission? These questions have been of such importance to the Department of Mental Hygiene and Hospitals and to families or friends of patients that an analysis has been made to show the status of patients (in or out of hospital) six months and one year after their admission dates.

This study indicates that the probability of a patient being released from a mental hospital is greatly reduced after a stay of longer than six months. An analysis of the admissions of mentally ill persons for the year ending June 30, 1950, shows the following: For those admitted as first admissions 40.2% were discharged or released on trial visit during the first six months. By the end of a year, from date of admission, 46.1% were discharged or released on trial visit. This was a difference of only 5.9% between six months and one year of hospitalization. Those remaining in hospital were 42.3% at the end of six months, and 31.0% at the end of of a year from date of admission. The death rate was 17.5% for six months and 22.9% for one year. Chart Number 1 shows this graphically.

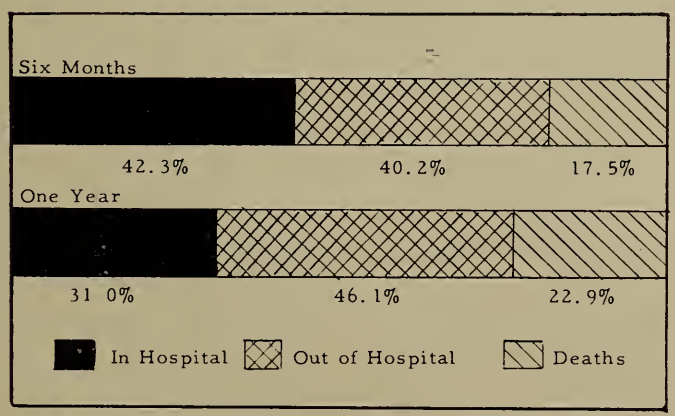

Chart 1. Comparison of Status of First Admissions Six Months and One Year from Date of Admission.

The picture in regard to readmissions because of mental illness is somewhat different. Readmissions constitute 35% of all admissions. At the end of 6 months 51.4% of the readmissions have been released, 7.8% have died. It is noted that the death rate of readmissions is much smaller than the first admissions. This is because the readmission rate among the old age group is much smaller, in fact, practically non-existent. Chart Number 2 shows this picture graphically.

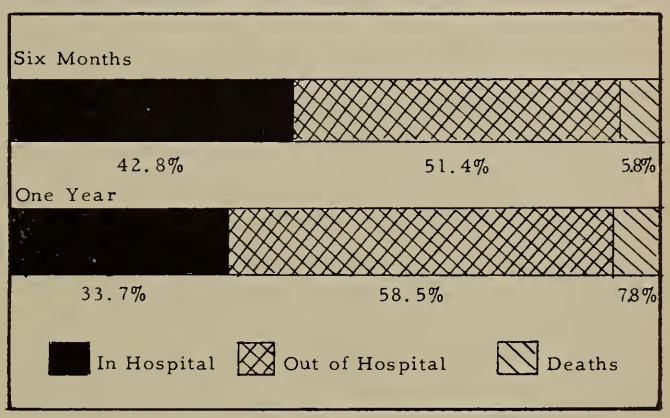

Chart 2. Comparison of Status of Readmissions Six Months and One Year from Date of Admission.

Now if we compare the first and readmissions in a study of all admissions, we have the following: At the end of six months 44.0% of all admissions have been released; 13.6% have died. At the end of one year 50.4% of all admissions have been released; 17.7% have died. Chart Number 3 shows this graphically.

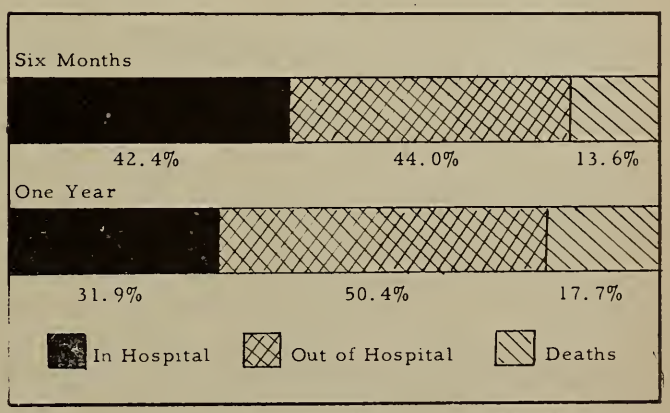

Chart 3 Comparison of Status of All Admissions Six Months and One Year from Date of Admission.

From these studies it may be seen that patients who are not sufficiently recovered or improved within six months following their admission have a rela-

*Prepared by Edna M. Lantz, Statistician, Department of Mental Hygiene and Hospitals.

tively smaller probability of leaving the hospital. Therefore, intensive treatment of patients during the first months following admissions appears to produce better results than a longer term of hospitalization.

In a statistical review of individual hospitals in this particular analysis it was noted that those hospitals that had a higher ratio of professional personnel to patients also showed a higher percentage of discharges and trial visits during the first six months following admission.

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Diphtheria

The following table lists the incidence and fatality from Diphtheria as reported in Virginia since 1920:

DIPHTHERIA IN VIRGINIA, 1920-1951

Year	No. Cases Reported	Rate (Cases per 100,000 Population)	Number Deaths	Fatality Rate
1920	4370	188.79	334	7.6
1930	2210	91.3	172	7.8
1940	709	26.4	51	7.2
1941	754	27.3	44	5.8
1942	699	24.9	42	6.0
1943	395	13.8	25	6.3
1944	329	11.8	23	7.0
1945	577	20.5	42	7.3
1946	548	18.3	43	7.8
1947	273	8.9	23	8.4
1948	265	8.4	13	4.9
1949	220	7.0	12	5.5
1950	192	5.8	11	5.7
1951*	88	2.6	5	5.7

*(Through September 30)
Figures for 1951 are provisional.

Although there has been an encouraging and steady decline (except in 1945-46) in the incidence of Diphtheria in Virginia, we should not be complacent, recognizing that the Virginia case rate for 1950 (5.8) is higher than for the United States as a whole (3.9). The higher incidence in 1945-46 seemed to confirm the apprehension that there would be an increase in diphtheria in the United States, reflecting the high attack rate in Europe. During the winter of 1945-46 there was a high incidence of diphtheria in Europe and the case fatality rate was also high. It was felt, therefore, that the exposure of thousands of American soldiers to these organisms of apparently high virulence, made possible the return of many diphtheria carriers. Fortunately this was not the case.

However, the progressive decline in incidence should not give a sense of false security. In control of diphtheria, eternal vigilance is still the price of security. Such vigilance demands widespread immunization and the detection of carriers of virulent organisms. It is recommended that immunization against diphtheria (preferably in conjunction with pertussis and tetanus) be given as early as the 3rd month, and many physicians recommend such immunization as early as the second month of life. Second and third injections are given at intervals of 1 month and a booster dose is recommended at 18 months and before entering school.

The handling of the carrier is often a difficult problem. Some success has been reported from the intensive use of penicillin during the course of the disease. Although it may not influence the course, in some cases, it appears to reduce the carrier stage. When virulent organisms persist, removal of adenoids and tonsils is advised.

MONTHLY MORBIDITY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL

	Sept. 1951	Sept. 1950	Jan.-Sept. 1951	Jan.-Sept. 1950
Brucellosis	12	8	66	47
Diarrhea and Dysentery	537	539	2,302	3,247
Diphtheria	12	30	88	132
Measles	65	64	13,746	2,540
Meningitis (Meningococcal)	8	1	95	92
Poliomyelitis	97	337	191	887
Rocky Mountain Spotted Fever	6	6	58	64
Scarlet Fever	39	55	742	644
Tularemia	3	8	33	33
Typhoid and Paratyphoid	7	11	41	68

BOOK ANNOUNCEMENTS

Spatial Vector Electrocardiography. By ROBERT P. GRANT, M.D., and E. HARVEY ESTES, JR., M.D., 1951. The Blakiston Company, Philadelphia, New York and Toronto. 41 Figures; 149 pages. Cloth. Price $4.50.

Manual of Tumor Nomenclature and Coding. Prepared by Subcommittee of the Statistics Committee of the American Cancer Society. 1951. 119 pages. Cloth. Price $2.50.

Master Your Mind. By SAMUEL KAHN, M.D., Ph.D. Rockport Press, Inc., New York. 1951. xxviii-262 pages. Cloth.

Let's Have Healthy Children. By ADELLE DAVIS, A.B., M.S., Consulting Nutritionist. Harcourt, Brace and Company, New York. 1951. 314 pages. Cloth. Price $3.00.

Let's Cook It Right. By ADELLE DAVIS, A.B., M.S., Consulting Nutritionist. Harcourt, Brace and Company, New York. 1951. x-626 pages. Cloth. Price $3.00.

The Changing Years. What to Do About the Menopause. By MADELINE GRAY. Doubleday & Company, Inc., Garden City, N. Y. 1951. 224 pages. Cloth. Price $2.75.

Technical Methods for the Technician. By ANSON LEE BROWN, B.A., M.D., Columbus, Ohio. Published by Anson L. Brown, Inc., Columbus, Ohio. 1950-51. xvi-784 pages. Illustrated. Cloth. Price $10.00.

Review of Physiological Chemistry. By HAROLD A. HARPER, PhD., Professor of Biology (Biochemistry), University of San Francisco; Lecturer in Surgery, University of California School of Medicine; etc. Third Edition. University Medical Publishers, Palo Alto, Calif. 1951. 260 pages. Price $3.50.

Patterns of Disease. On a Basis of Physiologic Pathology. By FRANK L. APPERLY, M.A., M.D. (Oxford), D. Sc. (Melbourne), F.R. C.P. (London), Professor of Pathology, Medical College of Virginia, Richmond, Virginia. J. B. Lippincott Company, Philadelphia. 1951. xiii-456 pages. 50 figures and 37 charts. Price $8.00.

This little volume, based on lectures on pathology delivered at the Medical College of Virginia, should prove valuable to those of us who have been out of school for some years and need bringing up to date on the newer ideas about disease, especially the virus and Rickettsial diseases and the part that chemistry plays in the formation of antibodies and in the processes of repair. Dr. Apperly is an excellent teacher and has a gift of explaining complicated processes. Take for instance his description of a virus. "It has been suggested that somewhere in past ages certain bacteria, living a sheltered parasitic existence in certain animals for many generations and bathed in a medium of predigested nutriment, gradually lost their own powers of digestion, i.e., their own enzymes necessary for independent existence and growth. This increasing shedding of its functions and consequent atrophy have finally reduced the parasite to such ultramicroscopic dimensions that in some cases it is doubtful if the parasite is even a living organism. At any rate, it is able to penetrate the cell, to fatten on its host, to be protected by it from outside antibodies and chemicals and thus to interfere in its host's metabolism—the complete parasite! This organism, if indeed we can so honor it, is called a *virus*." His description of phagocytosis is equally interesting. The leucocyte, driven by positive chemotaxis, approaches the bacterium and proceeds to feel, fondle and finally phagocytose its prey.

M.P.R.

Metabolic Methods. Clinical Procedures in the Study of Metabolic Functions. By C. FRANK CONSOLAZIO, Chief of Biochemistry, United States Army Medical Nutrition Laboratory, Chicago, Ill.; ROBERT E. JOHNSON, M.D., D. PHIL. (OXFORD), Professor and Head of the Department of Physiology, University of Illinois; and EVELYN MAREK, M.A., Biochemist, United States Army Medical Nutrition Laboratory. St. Louis, The C. V. Mosby Company. 1951. 470 pages. Illustrated. Cloth. Price $6.75.

A concise and accurate reference book of general and special procedures necessary for the conduct of metabolic studies and clinical investigation. Not only giving the explicit procedures for a multitude of chemical and physicial measurements on blood, serum, urine, and feces, the easy reading of physical principles involved in most of the complex instruments used in special and general clinical laboratories will greatly aid the chemist or technical assistant using this manual to understand instrumentation. Metabolic laboratories and clinical investigators actively using a great number of chemical determinations in the study of normal physiology or disease process will find this compilation into one volume a great time saver in methodology. The additional references given for the various procedures make it even more encompassing of metabolic methods. This excellent book, greatly needed for a long time, will quickly find many enthusiasts among clinical investigators and biochemists.

G.W.J. III

EDITORIALS

John Trible Thomas Hundley

OUR new president was born in Dunnsville, Essex County, Virginia on August 29, 1898. His father was John Trible Thomas Hundley, a minister of the Disciples of Christ Church, and for over 20 years the eminent president of Lynchburg College. His mother was Sue Fleet Walker.

Dr. Hundley received his A.B. degree from Lynchburg College in 1919 and was graduated as a doctor of medicine by the University of Maryland in 1923. Following his internship he practiced for a time in the coal fields at Lillybrook, West Virginia. In 1931 he returned to Lynchburg and has since confined his work to internal medicine in that city.

JOHN TRIBLE THOMAS HUNDLEY, M.D.,
President, The Medical Society of Virginia.

In 1924 Dr. Hundley was married to Katherine Elizabeth Swan of Baltimore. They have two children, Mrs. James Willard Greer of South Boston and John T. T. Hundley, Jr., who is married and resides in Lynchburg. There are three grandchildren.

Dr. Hundley has long been affiliated with civic endeavors in Lynchburg. Among his interests are the Kiwanis Club and the local Boy Scout Council. He served as chairman of the committee which organized the Lynchburg Guidance Center, later as its first president; also he acted in somewhat similar capacities for the Piedmont Hospital Service Association, as organizing chairman and as a member of its board.

He has been active in local, state and national medical affairs for many years. Thus, he has officiated in the following capacities: Secretary and President of the Lynchburg

Academy; Councilor for the Sixth District; as Vice-president of the Medical Society of Virginia; member of its Council executive committee; state chairman of the AMA Educational Campaign; and member and chairman of the Committee on Medical Economics.

While so generously serving organized medicine and participating in civic enterprises, Dr. Hundley has conducted an extensive medical practice. He has served on the staffs of the Lynchburg General Hospital, the Virginia Baptist Hospital, and the Memorial Hospital either as secretary or as chief of staff.

His principal interest in organized medicine during the past several years has been in the field of public relations. He has made valuable contributions to this work of the Society and some of his findings have been used nationally as a basis for improvement in medical service.

His efforts in the solution of socio-economic problems of medicine have also received recognition in national lay publications. He has often participated in non-medical discussion groups, ably representing the side of medicine.

Dr. Hundley is an energetic and enthusiastic worker for the betterment of medical care and medical service through improvement of the private practice of medicine. His findings, based upon detailed study, mature reflection, and consideration of the viewpoint of others, have been presented in a clear, forceful and convincing manner. From the platform, he speaks ably and with unusual clarity and conviction.

It is a significant fact that those who have known Dr. Hundley and his work the best have selected him for the Presidency of The Medical Society of Virginia by unanimous vote.

J.P.K.

The Diabetes Detection Drive

IT IS estimated that one million cases of diabetes are unrecognized in this country. The diagnosis of this disease rests upon a simple, quick laboratory test of the urine or the blood. It is so simple, in fact, that the patient himself can perform it and the results are unequivocal. Furthermore, the treatment of the disease is so satisfactory that there can be no objection to the drive, that the American Diabetes Association is conducting, on the ground of stimulating mass hysteria. Case finding campaigns in connection with many chronic diseases may, and indeed actually do, produce harm because of (1) uncertainty of the diagnosis and (2) the difficult and nct-too-satisfactory treatment one has to offer the patient. This is not true in the case of diabetes. The recognition and treatment of diabetes is followed by improved health, and failure of recognition indeed may be disastrous. In case of accident or operation, an unrecognized diabetic runs a much greater risk than does one whose disease is being treated.

The diabetes detection drive has the approval of the American Medical Association. Every physician is requested to test his own urine and that of each member of his family today, and that of every patient routinely; second, to offer his assistance in the drive; third, to urge his Medical Society officers to form a Committee on Diabetes and recommend that every person in the community be tested. The principle of self-testing for glycosuria was approved by the Council of the American Diabetes Association, June 5, 1949, and by the House of Delegates of the American Medical Association, June 28, 1950. Self-testing units contain directions for use and instruction to report all positive findings to family physicians for confirmatory diagnosis.

What's Wrong With Modern Medical Education?

GENERAL Paul R. Hawley in the Irving S. Cutter Medalist Address (*Journal of Phi Rho Sigma,* 46: Oct. 1950) made the startling, but nevertheless true, statement, "Never has the medical graduate been so poorly prepared as he is today—actually so completely unprepared—to face the complex problems with which he will be confronted the moment he enters private practice. It is a tragic paradox, that with a professional armamentarium never before equalled, today's medical graduate is handicapped in applying it to the general good of humanity by his ignorance of the social and economic structure within which he must serve." Never has the doctor's public relations been so poor. The public is now "Mad at Doctors", not one doctor, or certain doctors, but all doctors. This deterioration in public relation has taken place in the past forty years and General Hawley attempts to account for it.

It is due, he believes, to the changed attitude of the young doctor toward the patient. Forty years ago the welfare of the patient came first by long odds. Many a vacation was abandoned or postponed because some patient was too ill to leave. Whether the patient paid or not was distinctly a secondary matter. The patient's need was the main consideration.

The picture of the interne of forty years ago as drawn by General Hawley and the interne of today presents an even more startling contrast. Formerly, the pay consisted of room, board, and laundry, and the interne was content provided the training was good. Recently, this question was aired in the correspondence columns of the daily newspapers and not a word was said about the character of the training received. The discussion was confined to remuneration and "hours". Formerly, the interne took a night off every now and then if his work were up and he got another interne to take his calls. Now, General Hawley continues, the interne confers a favor on the hospital by accepting a living wage for a 40-hour week and nothing interferes with his hours off. Seemingly he has no feeling of responsibility for his patients. General Hawley also calls attention to another evidence of the young doctor's indifference to the patient's welfare and that is the patient's expenses. When unnecessary laboratory procedures are ordered and when the patient is allowed to stay in the hospital longer than necessary, it adds to the expense. It may be that the patient has prepaid hospital insurance, but this unnecessary expense will have to be paid by someone and will eventually be reflected in the rates some future patient will have to pay.

What has the full-time teacher to do with this problem? It seems reasonable that he has a great deal. To a private practitioner a patient is a person and is usually treated as such. To a full-time teacher a patient is a problem and is treated as such. Which attitude the new graduate takes depends upon the graduate and the hospital in which he internes. General Hawley suggests that the fraternities have a roll in determining this attitude. By informal discussion and smokers they can bring the undergraduate in contact with alumni who have successfully solved such problems. In such contacts the medical student may learn that there is a humanistic side to medicine which is as important as the scientific side.

Our State Board of Medical Examiners

THE function of the State Board is the protection of the public against persons who have not had adequate exposure to suitable training in the healing arts. At present the Board is composed of fourteen members: one doctor of medicine from each

congressional district, an homeopath, an osteopath, two chiropractors, and a naturopath. Recently a chiropodist has been added but as yet he has not functioned. Admittedly the law under which the Board works is illogical. It is the result of political compromise, but with it the Board has been getting satisfactory results.

Standing as it does, guarding the entrance to the practice of medicine, the Board is of concern to medical schools, the public, and the profession, and especially the new graduate. Before there were State Medical Examining Boards, medical education was in a chaotic condition. Medical schools varied from "diploma mills" all the way up the scale to first class institutions. The public had no way of knowing just what an M.D. degree meant. Sometimes it was merely a receipt for a fee paid and sometimes it represented hard and worthwhile work. Many of us can remember when the results of the Board's examinations were published in the newspapers with the number of applicants and failures per school. When this practice began, it was not long before the diploma mills closed up and the weaker schools improved and the results of the examinations ceased to be news. Medical education became more standardized. Practically everyone passed and the examination became, like the night stick of the London "bobby", just the symbol of authority.

The present law requires that an applicant for license to practice must be a graduate of a school at least the equal of the two medical schools in Virginia. Thus it has become the duty of the Board to examine the school as well as the graduate. In the case of refugee doctors this imposes considerable difficulties and may lead to court action as was recently the case in Southwest Virginia.

The public is inclined to look upon the Medical Practice Act and the examining Board as creatures of the medical profession. Nothing could be further from the truth. The members of the Board are appointed for five year terms by the Governor. In the case of the medical members, The Medical Society of Virginia submits to the Governor a list of three names from which he makes his appointment.

An important part of the duties of the Board is to see that the law is obeyed. It can revoke the license of anyone violating, for instance, the narcotic law or performing an illegal operation, and it can prosecute anyone practicing without a license.

The refugee doctor has given the Board a great deal of trouble. In the first place it is hard to evaluate his background and qualifications. Experience has shown that many are not trustworthy. Some have been admitted to practice in Virginia under pressure of some rural communities that needed doctors and invariably they have moved on to greener fields. This was the cause of breaking off reciprocity agreements with New York. Needless to say such varied duties demand sound judgment and ability.

The doctors of the Board are the first doctors in an official capacity that the new doctor meets on entering his life work. They are, in a way, a welcoming committee and they frequently make a lasting impression on the new comer. For this reason if for no other, they should be representative of our very best. Of such has the Board been composed in the past, and of such, we hope, that it will continue to be in the future.

The terms of two members, Dr. M. S. Fitchett of Norfolk and Dr. Guy Horsley of Richmond, expired this year. Dr. Horsley was the President of the Board. Both have served faithfully and well and the Monthly takes this occasion to thank them on behalf of The Medical Society of Virginia for this fine service they have rendered their State.

SOCIETY PROCEEDINGS

The Virginia State Board of Medical Examiners

Announces the following list of applicants who were licensed by the Board at its last regular meeting, June 13-16, 1951:

BY RECIPROCITY

Dr. Richard Jenks Ackart, Baltimore, Md.
Dr. Robert Harper Anderson, Alexandria.
Dr. William Cooke Andrews, Norfolk.
Dr. Thomas George Boisclair, Arlington.
Dr. George Joseph Carroll, Washington, D. C.
Dr. Edward Philip Cawley, Charlottesville.
Dr. Claude C. Caylor, Jr., Alexandria.
Dr. Conrad Clark Clement, Alexandria.
Dr. Charles Barrie Cook, Alexandria.
Dr. Bennett Y. Cowan, Philadelphia, Pa.
Dr. Jerome Edward Curtin, Arlington.
Dr. Cecil Burton Dixon, Paces.
Dr. Robert Edward duPrey, Washington, D. C.
Dr. Herman Lee Earnhardt, Jr., Radford.
Dr. William Clay Fritz, Franktown.
Dr. Clifford Garland Gaddy, Charlottesville.
Dr. Herbert Harold Galston, Richmond.
Dr. Milton Goldin, Portsmouth.
Dr. Henry Thomas Gray, Charlottesville.
Dr. Reginald Emerson Gregory, Altavista.
Dr. James Louis Guillette, Richmond.
Dr. Theron Henry Haas, Radford.
Dr. John Roland Hankins, Baltimore, Md.
Dr. John George Klemm Harvey, Danville.
Dr. Forrest Moseley Haswell, South Boston.
Dr. Richard L. Johnson, Roanoke.
Dr. James William Johnston, Richmond.
Dr. Paul Kaufman, Washington, D. C.
Dr. Robert Aloysius Kelley, Charlottesville.
Dr. Harold Nelson King, Hampton.
Dr. Ludwig C. Kroutil, Silver Spring, Md.
Dr. Daniel Leavitt, Roanoke.
Dr. Walter William Ledyard, Charlottesville.
Dr. Emmett Patrick Madigan, Bethesda, Md.
Dr. William Carey Meloy, Washington, D. C.
Dr. Arthur Albert Newbarr, North Garden.
Dr. James Arthur Newcome, Roanoke.
Dr. Charles Greylock Noble, Chincoteague.
Dr. Duncan Parham, Flushing, N. Y.
Dr. Julius Peerless, Norfolk.
Dr. Oliver James Purnell, Jr., Richmond.
Dr. John Lewis Read, Richmond.
Dr. Charles Henry Ross, Jonesville.
Dr. Paul Leslie Rowan, Richlands.
Dr. Soon Tai Ryang, Petersburg.
Dr. William A. Shafer, Bluefield, W. Va.
Dr. Peter Soyster, Falls Church.
Dr. Harrison Clark Spencer, Abingdon.
Dr. Andrew Tessitore, Washington, D. C.
Dr. John Wesley Todd, III, Rochester, Minn.
Dr. John Bacchus Truslow, Richmond.
Dr. John W. Uzmann, Roanoke.
Dr. Norman St. George Vann, Hampton.
Dr. Jack William Verran, Dunbar.
Dr. Charles Monroe Warr, Jr., Richmond.
Dr. Clayton Eugene Wheeler, Jr., Charlottesville.
Dr. Lester Arnauld Wilson, Jr., Charlottesville.
Dr. Leslie Norwood Winston, Richmond.
Dr. Jack Richard Woodside, Arlington.
Dr. Lewis H. Wright, New York, N. Y.

BY EXAMINATION

Dr. Albert Harold Arenowitz, Charlottesville.
Dr. Evan Hamilton Ashby, Jr., Charlottesville.
Dr. Ratcliffe Cox Barnes, Charlottesville.
Dr. Hubert Elmore Batten, Richmond.
Dr. Wayland Richard Bennett, Madison Heights.
Dr. Carlos Simon Berrocal, Puerto Rico.
Dr. William Jasper Berry, Oak Hill, W. Va.
Dr. Frank Nash Bilisoly, III, Charlottesville.
Dr. Ernst Moritz Blumenberg, Marion.
Dr. Lewis Booker, Union City, Ind.
Dr. Courtney Cox Bowen, Richmond.
Dr. Walter Morris Brady, Lynchburg.
Dr. Harvey Jerome Breit, Charlottesville.
Dr. Seymour Monty Brenner, Long Island, N. Y.
Dr. Joseph Herbert Britton, Richmond.
Dr. Raymond Keith Brown, Charlottesville.
Dr. John Chalkley Buchanan, Clintwood.
Dr. Ralph Burton Burner, Philippi, W. Va.
Dr. Ira Marshall Cantin, Virginia Beach.
Dr. Mariam Willena Carmichael, Richmond.
Dr. Floyd W. Carneal, Jr., Hampton.
Dr. Wallace Alexander Coburn, Seattle, Wash.
Dr. William Agee Cook, Jr., Madison Heights.
Dr. Philip Winston Coherd, Jr., Winchester.
Dr. Martel Jennings Dailey, Tye River.
Dr. Oscar Bruton Darden, Jr., Richmond.
Dr. Merle Burton Davis, Fairmont, W. Va.
Dr. Preston Caldwell Davis, Charleston, W. Va.
Dr. William Templeton Davis, Wilmington, N. C.
Dr. Paul Sahak Derian, New York City, N. Y.
Dr. Julia Cecil Dickinson, Richmond.
Dr. William S. Dingledine, Emory University, Ga.
Dr. Charles Coleman Donegan, Jr., Charlottesville.
Dr. Leonard Ned Ebin, Charlottesville.
Dr. Fred Ray Edens, Norton.
Dr. Adolphe Max Ehrenworth, Norfolk.
Dr. Warren Dunlap Elliott, University.
Dr. John L. Fairly, Jr., Richmond.
Dr. Cyrus Creston Farrow, Jr., Richmond.
Dr. Frederick A. Feddeman, Lexington.
Dr. Donald F. Fletcher, Horsey.
Dr. Clifford Henry Fox, Charlottesville.
Dr. Calvin Hunter Frazier, Miami, Fla.

Dr. Emma Jane Freeman, Adrian, W. Va.
Dr. William F. Gibbs, Norfolk.
Dr. Matthew C. Glynn, Portsmouth.
Dr. John B. Gorman, Lynchburg.
Dr. Richard Kelly Greenbank, Detroit, Mich.
Dr. William Hugh Grey, Richmond.
Dr. Anthony James Grieco, Charlottesville.
Dr. Francis Gordon Griffin, Windsor.
Dr. William C. Grigsby, Jr., Bristol.
Dr. Luther J. Hamlett, Richmond.
Dr. Robert Harris, Staten Island, N. Y.
Dr. Lewis Bailey Hasty, Richmond.
Dr. Robert Traylor Helmen, South Bend, Ind.
Dr. Philip Kearney Hensel, Camp Hill, Pa.
Dr. Norman Nash Hill, Jr., Norfolk.
Dr. Durell Boyd Horsley, Schuyler.
Dr. Wm. John Hotchkiss, Winchester.
Dr. Aubrey Alphin Houser, Jr., Richmond.
Dr. Austin Taber Hyde, Jr., Charlottesville.
Dr. Lawrence Perry Hyde, Swickley, Pa.
Dr. Allan Hammett Jefferies, Gaffney, S. C.
Dr. Eileen Thorpe Jennings, Appomattox.
Dr. Thomas Henry Jennings, Appomattox.
Dr. Walter Stanley Jennings, Fentress.
Dr. Albert McCray Jones, Norfolk.
Dr. Edward Paul Jones, Richmond.
Dr. Herbert C. Jones, Jr., Petersburg.
Dr. Ernest Jackson Keffer, Jr., Roanoke.
Dr. Louis Henry Keffer, Jr., Portsmouth.
Dr. Harold Kennedy, Martinsville.
Dr. James Moultrie Lee, Charlottesville.
Dr. Edward Arthur Lewis, Aylett.
Dr. Joseph J. Lindley, Richmond.
Dr. Henry Reece Little, Jr., Altavista.
Dr. Joseph Humphries Magee, Charlottesville.
Dr. Virginus Archer Marks, Richmond.
Dr. Erma Jean Marra, Richmond.
Dr. Arthur Joseph Martin, Highland Springs.
Dr. Homer Delmar Martin, Richmond.
Dr. James Dunn Mason, Jr., Petersburg.
Dr. Joseph Emory Mathias, Richmond.
Dr. Thomas Day McCahill, Worchester, Mass.
Dr. Joseph Frederick McGuire, Grundy.
Dr. William Francis McGuire, Charlottesville.
Dr. Elmer Francis McHugh, Pittsburgh, Pa.
Dr. Francis Hunter McMullan, Richmond.
Dr. Arthur W. D. Mears, Belle Haven.
Dr. Charles Samuel Miller, Charlottesville.
Dr. Harold W. Miller, Jr., Richmond.
Dr. Andrew C. Mitchell, Charlottesville.
Dr. Brooke Miller Moffett, Washington.
Dr. Hugh Kenneth Moir, Marion.
Dr. Garnett B. Moneymaker, Clifton Forge.
Dr. Pamela Ross Moore, Lewisburg, W. Va.
Dr. Robert Catchings Moore, Jr., Roanoke.
Dr. William Edward Newby, Richmond.
Dr. Abraham Lowell Newman, Williamsburg.
Dr. James Lee Northington, LaCrosse.
Dr. Allen Campbell Oglesby, Richmond.
Dr. Levi Old, Jr., London Bridge.
Dr. Wilmer Grey Oliphant, Mt. Hope, W. Va.
Dr. Bernard Oseroff, Norfolk.
Dr. Robert Macon Phillips, Petersburg.
Dr. William Herman Pifer, Birmingham, Ala.
Dr. Mary Martin Powell, Baltimore, Md.
Dr. Luke Ralph Rader, Richmond.
Dr. Charles Lankford Randolph, Jr., Richmond.
Dr. Robert Albion Repass, Bristol.
Dr. Harry H. Robinson, Charlottesville.
Dr. Carl J. Roncaglione, Richmond.
Dr. Charles Henry Sackett, Lynchburg.
Dr. Roy Preston Sandidge, Jr., Charlottesville.
Dr. Bernard Manuel Savage, Richmond.
Dr. Joseph Lee Sedwitz, Charlottesville.
Dr. Lewis Willard Shankel, Ft. Bliss, Texas.
Dr. William Henry Sipe, Charlottesville.
Dr. Victor Skorapa, Jr., Richmond.
Dr. Russell Smith, Roanoke.
Dr. Philip George Spaeth, Philadelphia, Pa.
Dr. Charles G. Spivey, Jr., Columbia, S. C.
Dr. John Miles Stirewalt, New Market.
Dr. Edward Jordan Stoll, Richmond.
Dr. James Walter Stone, Lynchburg.
Dr. Frances Milam Stoneburner, Sutherlin.
Dr. William Harold Stout, Charlottesville.
Dr. Albert Isadore Strauss, Brooklyn, N. Y.
Dr. Henry Morse Tanner, Jr., Charlottesville.
Dr. Richard Norvell Taylor, University.
Dr. Philip Randolph Thomas, Richmond.
Dr. Foxhall Parker Thornton, Jr., Elkton.
Dr. Norman Rock Tingle, Richmond.
Dr. Paul Ernest Totten, Charleston, W. Va.
Dr. Joe Watson Trent, Ft. Blackmore.
Dr. Jesse Miller Tucker, Jr., Richmond.
Dr. William Taylor Tucker, Charlottesville.
Dr. Harold Thomas Turner, Richmond.
Dr. Harry Charles Walker, Jr., Richmond.
Dr. Moffett R. Walker, Jr., Charlottesville.
Dr. Albert J. Wassermann, Richmond.
Dr. Julian Weinstein, Richmond.
Dr. William P. Wharton, Charlottesville.
Dr. James David Wilson, Clifton Forge.
Dr. Edward Woodward, Jr., Staunton.
Dr. Thomas Mahlon Wright, New York, N. Y.
Dr. Charles Murray Wylie, Richlands.
Dr. Harry Robert Yates, Jr., Charlottesville.
Dr. Yale Howard Zimberg, Richmond.

Norfolk County Medical Society.

At the last meeting before adjournment for the summer, Dr. Walter P. Adams succeeded to the presidency. Other officers elected are: President-elect, Dr. George A. Duncan; vice-president, Dr. Mallory S. Andrews; secretary, Dr. K. K. Wallace; and treasurer, Dr. J. Franklin Waddill. All are of Norfolk and the two latter were re-elected.

Roanoke Academy of Medicine.

Officers for the Academy, who took office October 1 are: President, Dr. Ira H. Hurt; president-elect, Dr. J. E. Gardner; vice-president, Dr. C. D. Nofsinger; and secretary-treasurer, Dr. Philip C. Trout. All are of Roanoke. Dr. A. P. Jones was named chairman of the Executive Committee; Dr. D. S. Garner, chairman of the Judicial and Ethics Committee; and Dr. M. A. Johnson, Jr., chairman of Public Relations.

The Fairfax County Medical Society,

At is September meeting, elected the following officers for the ensuing year: President, Dr. W. L. Harris, Falls Church; vice-president, Dr. T. B. McCord, Fairfax; treasurer, Dr. E. Newman, Vienna; and secretary, Dr. C. E. Cooper (re-elected), Annandale.

The Warwick County Medical Society

Held its first fall meeting at The James River Country Club in September with Dr. J. W. Carney, of Newport News, vice-president, presiding. There were fifty-six members and eleven guests present.

Dr. John P. McGovern, Assistant Professor of Pediatrics at The George Washington University School of Medicine in Washington, D. C., was the guest speaker. His subject was "Fluid and Electrolyte Management in Infants and Children."

Dr. William H. Woodson and Dr. O. Watts Booth, both of Newport News, are president and secretary, respectively, of this Society.

Rockbridge County Medical Society.

At the meeting of this Society on September 12, the following officers were elected: President, Dr. Hunter McClung, Lexington; vice-president, Dr. T. F. Kennan, Raphine; and secretary, Dr. Lewis A. Micou, Buena Vista. At this meeting two doctors were accepted as new members.

The Lynchburg Academy of Medicine

Held its regular meeting on September 10 at the Virginian Hotel, following dinner. Several new members were received at this time. The speaker of the evening was Dr. Kenneth Crispell, associate professor of Medicine at the University of Virginia, who spoke on Thyrotoxicosis.

Dr. J. W. Davis, Jr., is president, and Dr. Edwin A. Harper, secretary. Both are of Lynchburg.

NEWS

Executive Secretary-Treasurer and Director of Public Relations, Medical Society of Virginia.

The Committee appointed to Select a Successor to Mr. Henry S. Johnson, interviewed numerous candidates for this position, and after careful consideration decided on Mr. Robert I. Howard, provided he could be released from the Armed Forces.

Mr. Howard was Mr. Johnson's assistant prior to recall into the Army Air Force, and is therefore thoroughly familiar with office routine and problems peculiar to this type of medical organization.

The committee immediately started to work on Mr. Howard's release with the result that he assumed office October 5, 1951. We feel fortunate in having him with us again to head up the headquarters activities, since he is so eminently qualified, both as to personal attributes and experience.

J. M. EMMETT
GUY W. HORSLEY
JOHN T. T. HUNDLEY
VINCENT W. ARCHER, *Chairman*

The Medical Society of Virginia.

The 104th annual meeting of the Society, held at The Cavalier at Virginia Beach, October 7-10, under the presidency of Dr. C. Lydon Harrell of Norfolk, was a credit to the local committee and most successful in every way. There was a registered attendance of 638 doctors, 177 ladies, and 116 exhibitors. A number of affiliated societies held meetings at this time. Many matters of current interest were discussed.

The guests included Dr. Winthrop M. Phelps of Baltimore who spoke on General Management of the Cerebral Palsy Problem; Dr. Louis H. Bauer, President-Elect of the American Medical Association, who participated in the panel discussion "You and Your A.M.A."; Honorable Hugh D. Scott, a Virginian who went many years ago to Pennsylvania and is now a member of the U. S. House of Representatives. Mr. Scott spoke of a recent visit to the Western German zone, seeing the Russians having a peace celebration, of the interest of many in the United States, and also of a visit to General Eisen-

hower. The other guests were Dr. Theodore Woodward, Baltimore, who talked on Bacterial Diseases; and Dr. John E. Howard, also of Baltimore, whose subject was the Diagnosis and Treatment of Various Types of Spontaneous Hypoglycemia.

The exhibits, both technical and scientific, were excellent. In the scientific group, awards were given Dr. T. Addison Morgan of Franklin, Dr. William Parson, Dr. K. R. Crispell and Group of Charlottesville: and Dr. Robert L. Payne, Jr:, Norfolk.

The Society voted to nominate to the American Medical Association at its December meeting Dr. W. C. Caudill of Pearisburg as their choice for the Physician of the year.

Dr. John T. T. Hundley of Lynchburg succeeded to the presidency and the following officers were named: President-elect, Dr. James L. Hamner, Mannboro; vice-president, Dr. Ira L. Hancock, Creeds, Dr. Walter P. Adams, Norfolk, and Dr. Mary Elizabeth Johnston, Tazewell; executive secretary-treasurer, Robert I. Howard, Richmond.

Councilors were named for the odd numbered districts, in accordance with the By-Laws, those for the even numbered districts holding over. Those named were Dr. A. A. Creecy, Newport News; Dr. Guy W. Horsley, Richmond; Dr. L. P. Bailey, Nathalie; Dr. H. W. Miller, Woodstock; and Dr. James P. King, Radford.

Dr. J. M. Hutcheson and Dr. Carrington Williams of Richmond hold over as delegate and alternate to the A.M.A. The new delegates are Dr. Vincent W. Archer, Charlottesville, and Dr. M. H. Harris, West Point. Their alternates are Dr. Kinloch Nelson, Richmond, and Dr. John O. Boyd, Jr., Roanoke.

The Society voted to hold the 1952 meeting in Richmond.

News from State Department of Health.

Health Services have been established in Lee and Scott Counties forming the Lee-Scott Health District with Dr. W. A. Werner as Health Officer. Headquarters for this district are in Gate City with a branch office in Jonesville.

Dr. Robert W. Jessee, former Health Officer of the Carroll-Grayson Health District and Dr. Charles M. Wylie, former Health Officer of the Tazewell-Buchanan District, have received scholarships to Johns Hopkins University where they will work on their Masters degrees in Public Health. They will return to the State Health Department in June of 1952.

Dr. A. R. Wilson Climie has been appointed Health Officer of the Alleghany-Botetourt Health District with headquarters in Covington.

Dr. William V. Harrison has been assigned as Health Officer to the Carroll-Grayson Health District with headquarters at Galax.

Dr. Joseph M. Rose has assumed duties as Health Officer of the Pittsylvania Health District with headquarters in Chatham.

Dr. R. B. Blackwell resigned as Health Officer of Buena Vista-Lexington-Rockbridge Health District effective October 15. Dr. Blackwell has accepted the position as Health Officer of the city of Newport News.

News From University of Virginia, Department of Medicine.

"Obstetrics and Gynecology in General Practice" was the subject of a conference at the University of Virginia Department of Medicine, October 19-20. This symposium was the first of a series during the academic year that is designed especially for general physicians, and planned also for those who wish credit toward post-graduate training for membership in the Virginia Academy of General Practitioners.

A conference on "The Management of Common Traumatic Injuries" will be held at the University on January 11, 1952, and a conference on "Infectious Diseases", April 4, 1952.

The School of Clinical Pathology of the University of Virginia Department of Medicine will affiliate with Mary Washington College of the University of Virginia in a progam of training for medical technologists. Candidates for B.S. degree in medical technology will spend three years in academic study at Mary Washington College and one year at the University Hospital.

Dr. William E. Bray, Professor of Clinical Pathology, has emphasized that the training his school gives to students from other colleges and universities will continue. These students, he said, are admitted to the course upon completion of two years college work and are awarded a certificate from the American Society of Clinical Pathologists when they have met all requirements of the society and passed examinations, but are not eligible for the degree.

Dr. Walter O. Klingman has been promoted from Associate Professor to Professor of Neurology and Psychiatry. Other promotions recently announced are those of Dr. Kenneth R. Crispell to Assistant Professor of Internal Medicine, Dr. Robert A. Kelley to Assistant Professor of Urology, Dr. Preston B. Lowrance to Assistant Professor of Internal Medicine, Dr. Hans Hoch to Assistant Professor of Biochemistry, Dr. Clifford G. Gaddy to Instructor in Internal Medicine, and Dr. Donald Ferguson to Instructor in Internal Medicine.

Announcement has been made also of the appointment of Dr. William H. Wood, Jr., and Dr. Armistead Page Booker as Clinical Instructors in Pediatrics.

Dr. Myron M. Nichols, former Instructor in the Department of Pediatrics of the University of Arkansas and Pediatric Consultant to the Arkansas State Board of Health, began serving the first of July as Instructor in Pediatrics, University of Virginia Department of Medicine.

Dr. William Edmund Craddock, Radiological Registrar of the X-Ray Department, University College Hospital, London, England, became associated with the University as Instructor in Roentgenology the first of July.

Major Roger J. Reynolds, former Chief of the Medical Service of the Army Hospital, Ft. McPherson, Ga., will direct the Medical R.O.T.C. of the University of Virginia while serving as Assistant Resident in Internal Medicine at the University Hospital.

Commemorating the 100th Anniversary of the birth of Walter Reed, University Department of Medicine graduate in 1869, and opening the Friday Evening Medical Lecture Series, Dr. William B. Bean, Professor of Internal Medicine of the University of Iowa, spoke October 5, on "Walter Reed, the Study of a Disciplined Mind".

The second of twenty-one speakers of the Friday Evening Medical Lecture Series was Dr. George A. Perera, Department of Medicine, Columbia University, who spoke October 12, on "Essential Hypertension and Its Endocrine Relationships".

The third lecturer, Dr. F. Bayard Carter, Department of Obstetrics and Gynecology, Duke University, spoke October 19, on "The Menopause". This was the Tiffany J. Williams Memorial Lecture given in Conjunction with the Post Graduate Conference on Obstetrics and Gynecology in General Practice.

Dr. Julius H. Comroe, Jr., Department of Physiology and Pharmacology University of Pennsylvania, spoke October 26, on "Dyspnea".

Other lectures scheduled for the fall program include those by Dr. Alan Moritz, Institute of Pathology, Western Reserve University, on "The Medical and Medico-Legal Implications of Unexplained Deaths", November 2; Dr. Richard J. Bing, Johns Hopkins University, on "Some New Aspects of the Physiology of the Human Heart", November 9; Dr. Clarence C. Little, Jackson Memorial Laboratory, Bar Harbor, Maine, on "Genetics in Relation to Basic and Clinical Research in Cancer", November 30; Dr. Alton Ochsner, Tulane University School of Medicine, on "The Early Diagnosis and Treatment of Gastric Carcinoma", December 7.

A federal grant of $485,000, from Hill-Burton Funds has been awarded the University Hospital for expansion in the hospital and erection of new kitchen facilities.

Dr. Osborne Honored.

Dr. Archibald P. Osborne of Berryville was honored by the citizens of Clarke County on October 1, when they tendered him and Mrs. Osborne a reception in the parish house of the Episcopal church. This marked the beginning of his fiftieth year of medical practice in that county, and was also the golden wedding anniversary of the couple.

Dr. Joseph F. Wilson,

Class of '44, Medical College of Virginia, after service of more than a year in Korea, joined the staff of McGuire Hospital, Richmond, on October 1, as an assistant in surgery. He is a son of Dr. Robert M. Wilson who directed a leper colony in Kwangju, Korea, from 1908 to 1941, and later was Henrico County health officer. Dr. Joseph Wilson was born in Kwangju.

New Health Officer at V.P.I.

Dr. Charles Roger Lyons has been appointed health officer at Virginia Polytechnic Institute, effective October 1. He replaces Dr. Charles R. Woolwine who retired August 31 after serving for twenty-three years. Dr. Lyons comes from Montana State University, where he had been health officer since 1947.

Richmond Board of Health.

Dr. M. Pierce Rucker will serve as chairman of the Board for the coming year, and Dr. Emily Gardner will be vice-chairman.

Dr. Harry J. Warthen has been named for a new term on the Board.

Medical College of Virginia News.

On September 26, a portrait was presented to the College of Dr. C. C. Coleman, who recently resigned as head of the department of neurological surgery. The portrait was presented by Dr. Frank H. Mayfield of Cincinnati, who trained under Dr. Coleman at the College, and it was received on behalf of the College by Dr. W. T. Sanger, president. Tributes were paid by Dr. I. A. Bigger, Dr. J. M. Hutcheson and Dr. John Bell Williams. The portrait was unveiled by Dr. Coleman's daughters. The ceremonies were attended by several hundred friends and medical associates of Dr. Coleman.

Dr. John M. Meredith has been named as professor and head of the department of Neurological Surgery at the College, succeeding Dr. Coleman, resigned. Dr. Meredith is an alumnus of the University of Pennsylvania, class of '30, and was on the teaching staff of the University of Virginia before becoming associated with Dr. Coleman in 1941.

Ground was broken for the new building for clinical dentistry at the Medical College of Virginia on September 11. The first two floors of the building are expected to be completed within the next 12 to 15 months and will provide space for expanded and newly equipped clinic facilities. The remaining two floors to house technic and research laboratories, lecture rooms and demonstration clinics are awaiting construction pending appropriations from the General Assembly.

The Thermal and Radiation Panel of the Research and Development Board, Department of Defense, met at the Medical College of Virginia on September 18. This group of civilian and military personnel under the chairmanship of Dr. Joseph Aub, professor of medicine at Harvard University, studied the present results of the work on burn research directed by Dr. Everett I. Evans and considered future plans.

Dr. Evans delivered the 26th Da Costa oration at the Philadelphia Academy of Medicine on September 26 on "The Management of Severe Burns".

Dr. William B. Porter, professor of medicine, delivered five lectures before the Medical Association of Puerto Rico in San Juan on heart disease. He also held four clinical conferences at the Municipal, Presbyterian, and Veterans Administration Hospitals there between September 1-12.

Dr. William T. Sanger, president of the Medical College of Virginia, was made president-elect of the National Society for Crippled Children and Adults at the annual convention in Chicago October 3-5.

Dr. Ralph M. Tovell, chief of the Department of Anesthesiology of Hartford Hospital, spoke to members of the staff on October 3 on the subject, "Local Anesthesia".

The enrollment for the session 1951-52 in the School of Medicine is 365; in the School of Dentistry, 202; in the School of Pharmacy, 218; in the School of Nursing, 180. There are 46 students in Physical Therapy; 8 in Hospital Administration; 24 in X-ray Technology; 15 in Medical Technology; and 3 in Public Health Nursing. In addition there are 119 interns and residents, 12 dietetic interns, 20 graduate students, and 57 nurse affiliates. Students enrolled in the Saint Philip unit for Negro women included 91 in the basic nursing course, 5 in Public Health Nursing, and 62 affiliates.

Dr. Richard Fowlkes,

Professor of Dermatology, Medical College of Virginia, Richmond, was elected President of the South-Eastern Dermatological Association at its meeting in Birmingham, Alabama, on September 2. The next meeting of the organization will be held in Nashville, Tennessee.

Dr. Arthur H. Ruggles to Give Salmon Lectures.

The Salmon Committee on Psychiatry and Mental Hygiene announces that Dr. Arthur Hiler Ruggles will deliver this year's Thomas William Salmon Lectures at the New York Academy of Medicine. His subject will be "The Place and Scope of Psychotherapy", and the talks will be given on the evenings of November 7, 14 and 20 at 8:30 o'clock. Dr. Ruggles is a former President of the American Psychiatric Association and of the National Committee for Mental Health. During World War II he was Consultant to the Secretary of War and Chairman of the Committee on War Psychiatry. He is at pres-

ent General Consultant to Butler Hospital, Providence, R.I., of which he was Superintendent for 26 years, and Special Consultant to the Emma Pendleton Bradley Home in Providence.

New State Medical Journal.

The Medical and Chirurgical Society of Maryland will publish a monthly state medical journal beginning January 1952. It will be known as the *Maryland Medical Journal* and will serve as the official organ of that state society.

Gill Memorial Eye, Ear and Throat Hospital Residents.

The annual meeting of the former residents of the Gill Memorial Eye, Ear and Throat Hospital, Roanoke, was held at the hospital on September 17, at which time the following papers were presented:

"Foreign Bodies of the Maxillary Sinus"—Dr. Paul T. Meyers, Johnstown, Pa.

"Cancer of the Cornea with Multiple Skin Cancers"—Dr. G. A. Smith, Montgomery, W. Va.

"Melanosarcoma of Choroid"—Dr. R. M. Ferrell, Lewisburg, W. Va.

"Surgical Management of Crossed Eyes"—Dr. E. G. Gill, Roanoke.

"Rhinoplastic Correction of the Enlarged and the Depressed Nose"—Dr. Frederick D. White, Roanoke.

"Technique and End Results of Operation for Deafness"—Dr. Houston L. Bell, Roanoke.

The officers of the association are: President, Dr. F. Buerk Zimmerman, Louisville, Kentucky; Vice-Presidents, Dr. Keith Gerchow, Morgantown, W. Va., and Dr. R. M. Ferrell, Lewisburg, W. Va.; Secretary-Treasurer, Dr. H. L. Bell, Roanoke.

The Stuart McGuire Lecture Series

And Symposium on Cardiac Surgery and Cardiology will be held November 7-9, in the Egyptian Building of the Medical College of Virginia, Richmond. There is no charge for the McGuire Lectures, but a charge of $5 a day for the lectures to be given on the 8th and 9th, except to members of the faculty of the Medical College of Virginia, the Medical Department of the University of Virginia, physicians of McGuire Veterans Hospital, medical students, and members of the house staff of any hospital. Visiting lecturer will include Drs. Charles P. Bailey, John H. Gibbon, Jr., and Redondo-Ramirez of Philadelphia; Dr. George E. Burch, New Orleans; Dr. Daniel F. Downing, Newark, N. J.; Drs. Richard W. Eckstein and Harold Feil of Cleveland; Dr. Donald E. Gregg, Washington; and Dr. Irving S. Wright, New York.

The Post Graduate Clinical Sessions,

Sponsored by The Virginia Society of Ophthalmology and Otolaryngology, will be held in Richmond, at the Baruch Auditorium of the Medical College of Virginia, November 27, 28, 29 and 30, 1951. The first two days are for otolaryngology and the remaining two days for ophthalmology.

For further information inquiries may be addressed to P. N. Pastore, M.D., Chairman, Box 25, Medical College of Virginia Station, 1200 East Broad Street, Richmond 19.

Dr. William B. McIlwaine,

Petersburg, went to Boston about the first of October to take a graduate course at Harvard Medical School in pediatric endocrinology.

Two New Hospitals in Virginia.

The Louise Obici Hospital was dedicated at Suffolk on September 16. This is a 100-bed hospital as a memorial to Mrs. Louise Obici, wife of the founder of the Planters Nut and Chocolate Company of that city. There will also be an adjoining building for the nurses and the class rooms and laboratories for the school for nurses.

The Shenandoah County Memorial Hospital was also dedicated on September the 16th. This is located at Woodstock and cost $800,000.

Urology Award.

The American Urological Association offers an annual award of $1000.00 (first prize of $500.00, second prize $300.00 and third prize $200.00) for essays on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to men in training to become urologists.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Chalfonte-Haddon Hall, Atlantic City, June 23-26, 1952.

For full particulars write the Secretary, Dr. Charles H. de T. Shivers, Boardwalk National Arcade Building, Atlantic City, New Jersey. Essays must be in his hands before February 15, 1952.

Motion Pictures on Health.

A revised list of "Sources of Motion Pictures on Health" has been prepared by the Committee on Medical Motion Pictures of the American Medical Association. This new mimeographed list includes 9 pages of addresses of the major loan and rental libraries, the state health departments' film libraries and references to printed lists and catalogs. Copies are available from: Committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois.

Van Meter Prize Award.

The American Goiter Association again offers the Van Meter Prize Award of Three Hundred Dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The Award will be made at the annual meeting of the Association which will be held in Saint Louis, Missouri, May 1, 2 and 3, 1952, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English; and a typewritten double spaced copy in duplicate sent to the Corresponding Secretary, Dr. George C. Shivers, 100 East Saint Vrain Street, Colorado Springs, Colorado, not later than March 1, 1952.

The American Laryngological, Rhinological and Otological Society,

Southern Section, will meet in Atlanta at the Academy of Medicine, Monday, January 14, 1952. This will be a one-day meeting and there will be six speakers, each of whom is preeminent in his own field. All members of the Medical Profession are cordially invited. There is *no* registration fee. The vice-president in charge of the Southern Section is Dr. Lester A. Brown of Atlanta, Georgia.

Auto Accident Information Wanted—

If the doctor who accidentally backed his auto into side of my black Olds. 88 Sedan, on morning of October 10th, in near front of Cavalier Hotel, at Virginia Beach meeting, will kindly advise me his Insurance Carrier, same will be appreciated. Address Dr. W. B. Barton, Stonega, Virginia. (*Adv.*)

OBITUARIES

Dr. William Thomas McLemore,

For more than fifty years a practicing physician at Courtland, died September 29, at his home there. He was a life long resident of Southampton County and was graduated in 1899 from the former University College of Medicine, Richmond. He was a member of the Medical Society of Virginia in which he belonged to the "Fifty Year" club. His wife and a son survive him.

Dr. John Garnett Broaddus,

Prominent physician of Bowling Green, died September 19, of a heart attack while at a Richmond theater. He was seventy years of age and a graduate of the former University College of Medicine, Richmond, in 1905. After graduate work in New York and a short time in West Virginia, he returned to Bowling Green to enter practice with his father and had continued there for forty years. He was a member of the Medical Society of Virginia. Surviving are his wife and two daughters.

Dr. Wycliffe Charles Jackson,

Who practiced for twenty years in Tazewell County, died at the home of his mother in Amelia County, September 17, aged forty-seven. He was graduated from the Medical College of Virginia in 1928, and was a member of the Medical Society of Virginia. Beside his mother, he is survived by his wife and three sons.

Dr. William Edgar Waddell,

A prominent surgeon in Lexington, died October 7, after a long illness, aged 41. A native of that city, he graduated in medicine from the University of Virginia in 1934. After a short service in hospitals in Farmville and Norfolk, he joined the staff of Twillingate Hospital in Newfoundland as assistant surgeon. He served with the Army Medical Corps for nearly four years, during World War II, and was awarded both the Silver Star and Purple Heart. He returned to Lexington in 1946. He was a member of the Medical Society of Virginia and

of the American College of Surgeons. His parents, his wife and two children survive him.

Dr. Theron Rice Rolston,

A physician at New Hope for twenty-two years, died September 23 at the age of forty-nine. He graduated from the Medical College of Virginia in 1929, was a former president of the Augusta County Medical Association, and was for some years a member of the Medical Society of Virginia. He was an elder in the Presbyterian Church and a member of the Augusta County School Board. Surviving are his wife and three children.

Dr. George McLean Lawson,

Professor of preventive medicine and public health at the University of Virginia, Charlottesville, died September 20, after an illness of two years. He was fifty-three years of age and a graduate in medicine from Yale University in 1924 and from Harvard in public health service in 1932. He joined the faculty at the University in 1937, was secretary of the medical faculty and was active in affairs of the medical school. He was a former member of the Medical Society of Virginia but resigned as he was not in practice. His wife and a son survive him.

Resolutions on Death of Henry S. Johnson.

The Richmond Public Relations Association of the Virginia State Chamber of Commerce, in session September 26, unanimously adopted the following:

BE IT RESOLVED that in the passing of Henry Satterwhite Johnson, a faithful member who worked enthusiastically and unceasingly in our Association, the Richmond Public Relations Association has sustained a profound loss;

BE IT RESOLVED that the members of this Association express their sincere sympathy to Mr. Johnson's family in their bereavement;

BE IT FURTHER RESOLVED that a copy of these resolutions be spread on the minutes of our Association, a copy sent to the VIRGINIA MEDICAL MONTHLY.

J. ROBERT ANDERSON
Chairman of Committee

Dr. Wilson Eliot Driver,

For many years a prominent eye, nose and throat specialist in Norfolk, died at a hospital in that city, October 14, after an illness of several months. He was eighty years of age and a graduate in medicine from the University of Maryland in 1893 and was one of the founders of the Norfolk General Hospital. Dr. Driver was a member of The Medical Society of Virginia for many years until his retirement from active practice in December 1941. He is survived by three children.

Dr. William Bradford Newcomb.

The Norfolk County Medical Society adopted the following in appreciation of the services of Dr. Newcomb:

Dr. William Bradford Newcomb, a prominent physician of Norfolk and a member and past president of this Society, died at his residence August 1, 1951.

A native of Gloucester County, Virginia, he received his academic education there. In 1906, he obtained a B.A. degree from the College of William and Mary. In 1910, he graduated from the Johns Hopkins School of Medicine. In 1913, after post-graduate study, he began the practice of Internal Medicine in Norfolk as an associate of Drs. Ruffin and Gwathmey. He maintained his office at Saint Christopher's Clinic until his recent illness. While confining his practice to Internal Medicine, Dr. Newcomb was well versed in all fields of the profession. In Pathology, he took special interest and was the guiding influence in the progress of the Pathological Department of the Norfolk General Hospital.

Dr. Newcomb was a member of The Medical Society of Virginia, the American Medical Association, the Seaboard Medical Society, and the American College of Physicians.

In World War I, Dr. Newcomb served on the Selective Service Advisory Board and, in World War II, organized a special reserve unit of the U. S. Public Health Service.

A lover of sports in general, Dr. Newcomb was an ardent horseman and through the organizations of Princess Anne Hunt Club and the Horse Show Associations, he did much to stimulate the interest in horsemanship in Virginia.

Dr. Newcomb was not married. He is survived by one sister, Mrs. Hunter Gates of Richmond and one brother, Dr. John Lloyd Newcomb, the retired President of the University of Virginia.

WHEREAS, we have been called upon to record the loss of Dr. Newcomb.

BE IT RESOLVED, that in his passing, our Society has lost a most esteemed member and the profession an outstanding counsellor.

BE IT RESOLVED, that we, the members of the Norfolk County Medical Society, extend to his family, our sympathy in their grief.

BE IT FURTHER RESOLVED, that a copy of these resolutions be spread upon the minutes of our Society as a permanent record, and that a copy be sent to the VIRGINIA MEDICAL MONTHLY and a copy to members of his family.

Committee:
G. R. BERKELEY, M.D.
A. B. HODGES, M.D.
W. A. PORTER, M.D., *Chairman*

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GUEST EDITORIAL

The Use of *Antabus*—A Warning

RECENTLY, the drug tetraethylthiuram disulfide (TETD), known commonly as *Antabus*, has been released by the Federal Food and Drug Administration for prescription use. Since TETD will now be available to physicians generally, it is timely to draw attention to the uses and potential dangers of the drug. Tetraethylthiuram disulfide was first administered in the treatment of alcoholics in Denmark and has been under investigation abroad and in this country for several years. When given according to a correct dosage schedule, TETD can be taken safely without distressing symptoms by patients who are medically and psychologically qualified for the drug. In the service of the Division of Alcohol Studies and Rehabilitation of the State Department of Health, TETD has been given daily in 0.25 Gram doses for periods as long as a year or more without unpleasant or dangerous sequelae. If a patient who is taking TETD consumes alcohol in any form there is a reaction which commences in about five to ten minutes and persists for an hour or more. The severity and duration of the reaction vary with individuals and depend upon the TETD concentration in the blood and the amount of alcohol taken. At first there is flushing of the skin which finally involves the whole body surface. Systolic and diastolic pressures fall and there is tachycardia. There may be cephalgia with dyspnea and nausea. Sometimes emesis occurs. These symptoms recede and the patient is left feeling sleepy. Within a few hours after a test reaction there are usually no residual symptoms and the patient feels perfectly well.

In selected cases who are under voluntary treatment it has been found that the use of TETD is of value as a deterrent to drinking and may play a beneficial role as a part of the total treatment program. The drug should not be thought of as a specific "cure" of alcoholism but only as an adjunct to therapy involving indicated medical, psychiatric and socio-economic rehabilitation and carried out as long-term procedure.

In the service of the Division of Alcohol Studies and Rehabilitation, TETD is initiated only as a hospital procedure to patients who volunteer to take the drug and who are found by clinical and laboratory tests to be free of serious cardiovascular and pulmonary disorders, renal or metabolic disease, and hepatic insufficiency. The drug is not suitable for patients with psychotic trends, suicidal risk, or abnormally low intelligence; since correct use of the drug involves long-term follow-up and treatment the drug should not be given to patients who are vagrant or who have no domestic stability. It is our policy not to offer TETD to patients over 60 years of age.

Tetraethylthiuram disulfide is initiated in the hospital by a daily oral dose according to the following schedule: first 1.5 Grams; second day, 1.0 Gram; third day, 0.5 Gram; fourth day, 0.5 Gram. On the fourth day and while the patient is still in the hospital, he receives a planned reaction test in which he is given alcohol in the

form of 90 proof whisky, 30 cc. being the routine amount. The purpose of the reaction test is to permit the patient to experience the reaction symptoms so that he will know what the effects will be should he take alcohol later. The patient is subsequently maintained on an oral dose of about 0.25 Gram a day and is required to follow-up with regular treatment visits for as long as TETD is given—about a year's time. Only one reaction is administered and its purpose is as an indoctrination only. The reaction is in no sense a conditioned stimulus nor does TETD administration constitute an "aversion treatment". TETD does not create distaste for alcohol itself.

It is felt that the reaction test should be conducted as a hospital procedure since it is not free from risk. Oxygen, epinephrin and other means to counteract cardiovascular collapse must be kept available during the reaction test. It must be emphasized that TETD is a dangerous drug except when given under careful medical supervision and for proper indications. The drug should never be administered to anyone without his knowledge and full understanding of the action of the drug. It is particularly important that physicians give warning that under no circumstances should TETD ever be put into alcoholic beverages or given to persons who have taken any alcohol within the previous seven days. Such misguided use of the drug may result in death.

EBBE CURTIS HOFF, M.D.

Richmond, Virginia

EDITOR'S NOTE: Dr. Hoff is Professor of Neurological Science, Medical College of Virginia, and Medical Director, Division of Alcohol Studies and Rehabilitation, Department of Health, Commonwealth of Virginia.

Floral Eponym

Monarda

MONARDES, NICOLAS, 1512 (CA)—1588

NICHOLAS MONARDES was a physician of Saville who collected all natural products of America and established a museum for them in 1554. He wrote the earliest American herbal. The first written account and illustration of tobacco and its use as a wound-herb is to be found in this work.

Monarda is a North American genus of the mint family. It is not to be confused with Mentha spicata which is sometimes mixed with ice and Bourbon in the summer.

THE DIAGNOSIS OF CARCINOMA OF THE COLON AND RECTUM*

Carrington Williams, M.D.,
Richmond, Virginia

Careful consideration of carcinoma of the colon is of great importance for many reasons. It is so frequent that it represents about 17% of all malignant lesions. It is preceded in a fair number of cases by precancerous lesions which can and in most cases should be removed; these are polyps, ulcerative colitis, some chronic infections, and a few cases of diverticulitis. Its diagnosis is not difficult and can be made early if one is alert. Having been warned by symptoms elicited by a simple but careful history, one should then follow a routine which can always be carried out without difficulty. The symptoms of early carcinoma of the right colon are few, the first complaints usually being weakness and weight loss based on secondary anemia; obvious blood in the stool is rare and there is no change in bowel habit. On the left side the lesion causes increasing constipation, change in the character of the stool, and frequently obvious blood in the stool. In many cases there is some abdominal distress or vague pain. Too often the doctor fails to take these mild complaints seriously. One should be alert to them and, when suspicious, follow the routine of digital examination, proctoscopic examination, and barium enema x-ray examination in addition to the ordinary physical study. The x-ray examination when negative, and, indeed, often when positive, should be supplemented by evacuation and air contrast x-ray visualization.

Carcinoma of the right colon represents about 20%, while these tumors of the left colon have an incidence of 80% of all large bowel malignancies. Of the left colon 60% of the growths are in the lower sigmoid and rectum, so that at least 50% of all colon lesions can be diagnosed by digital examination and another 10% by proctosigmoidoscopic examination. It must be also definitely understood that x-ray examination of this area which contains 60% of the lesions is so unreliable as to be almost worthless for early cases. This is because the convolutions of the sigmoid and rectum are protected against palpation and visualization by the bony pelvis (Figures 1 and 2).

In general the prognosis for patients with malignant disease is in direct proportion to the duration of the disease, and it is therefore of the utmost importance for patient and physician to be alert and suspicious when symptoms or signs suggesting malignancy are present. Of all the internal cancers those of the colon are probably the most favorable for cure in the early stages of the disease. Unfortunately they are frequently not discovered, either because the patient fails to report symptoms or because the physician fails to recognize as serious definite symptoms which point to the disease. Almost every case of carcinoma of the colon seen by the surgeon gives a story which, if properly interpreted, would have led to a much earlier diagnosis.

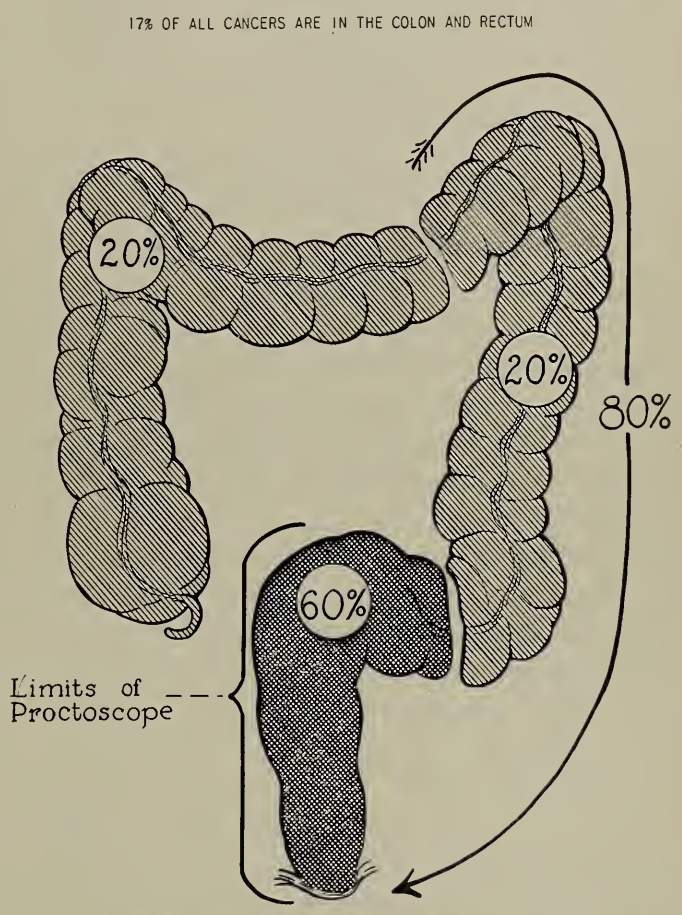

Fig. 1.—This shows the approximate distribution of malignant disease of the colon.

From the Surgical Service of Stuart Circle Hospital.
*Read before the Annual meeting of The Medical Society of Virginia at Roanoke, October 8-11, 1950.

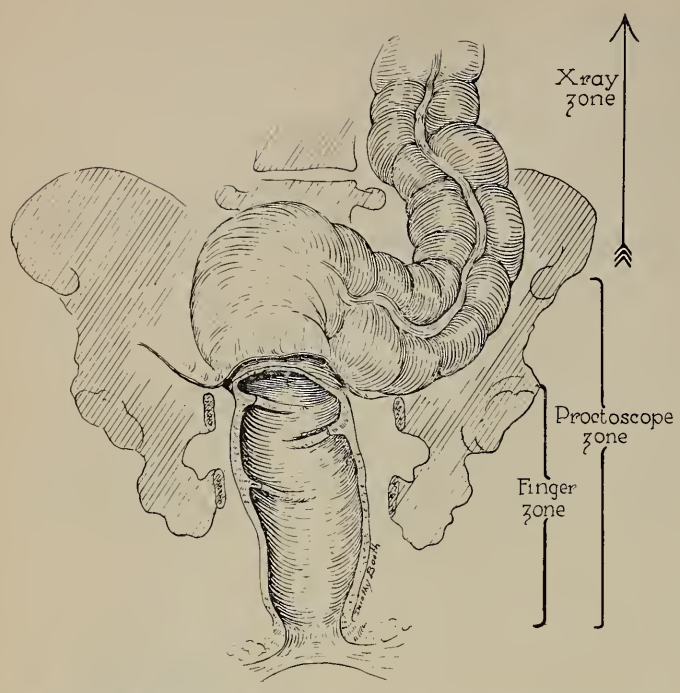

Fig. 2.—This illustrates the areas in the colon which can best be studied by digital, proctoscopic and x-ray examinations.

The function of the right half of the colon is absorption and concentration of the feces, while that of the left is storage and expulsion. On account of the different characteristics of these segments the symptoms and signs of disease are different. Again, the two sides are subject to different diseases, so that when a lesion is found its differential diagnosis is different.

On the right side of the colon the lumen is larger, the bowel wall is thinner and the fecal contents fluid. Carcinoma in this area therefore is insidious, it is not irritated by a hard bolus and therefore does not bleed grossly; the lumen being large and the contents soft it does not cause obstruction. The first symptoms of a growth in this area are usually of constitutional rather than a local disease, namely, weakness, weight loss, secondary anemia and occasionally pain. Physician and patient may be misled and fail to think of the colon until a mass has developed in the right abdomen.

This situation is illustrated by *Case 1.* S. M., a male of 70 years, who on account of weight loss and weakness was treated in a well known hospital for a month with the diagnosis of pernicious anemia. After returning home he continued to decline. When first seen by me his hemoglobin was 19% and there was a firm mass in the right lower abdomen. Barium enema x-ray examination revealed a carcinoma of the cecum. This was confirmed at operation. This patient lived for 15 years after operation, a result which was unusually happy. *A barium enema x-ray examination would have revealed the tumor many months earlier.*

In the transverse colon bleeding occurs in early cases and may be the only presenting symptom. This is illustrated in *Case 2.* A. B., a male of 45 years, who had few complaints. There was, however, some recurring blood in the stool, and barium enema revealed a small tumor in the splenic flexure of the colon. This lesion was small and of low grade. *The alertness of his physician is responsible for his almost certain cure.*

Malignant lesions of the colon may be multiple and are not infrequently accompanied by polyps in the same or distant colon. Careful search before and at operation should therefore be made in order to find these tumors.

The sigmoid colon is the lowest area where x-ray examination is reliable. Many of these cases come to the surgeon with complete obstruction. Their prior histories are often vague, with little to indicate the diagnosis. One can only suspect trouble and should resort to the routine of digital, proctoscopic and x-ray examinations. Naturally many of them will be negative but not infrequently the examiner will be rewarded by finding an early lesion.

Case 3. This is illustrated by the case of M. G., a female of 65 years, who on account of excess weight had restricted her diet for a year and lost 50 pounds. During this period she felt badly, had vague low abdominal pain and noted increasing constipation. This was attributed to the changed diet until she developed complete obstruction. Barium enema then revealed a stoppage of the column in the mid-sigmoid and at operation an encircling carcinoma in this region was found.

It takes from six months to one year for such a tumor to involve the entire circumference of the bowel, so *if it could have been suspected x-ray examination would have revealed it many months earlier, thereby improving the prognosis and simplifying the operative procedure.*

We come now to the lower sigmoid and rectum where 60% of these colon lesions occur. The majority of these tumors can be palpated by simple digital examination of the rectum, almost all can be visualized through a proctoscope, but only a small percentage can be found by x-ray examination of

a barium enema. It should be repeated that the convolutions of the rectum expose about six to eight inches of the bowel to the examining finger and 10 to 12 inches to the ordinary proctoscope. These same convolutions plus the heavy bony pelvis and overlying large sigmoid colon obscure the lesion from the examining roentgenologist. When one suspects a lesion of the lower colon it is important, in addition to the usual physical examination, to follow the sequence of digital examination of the rectum, proctoscopic examination, and x-ray examination of the barium enema. When these examinations are all negative and the symptoms are definite such as repeated bleeding, or when indefinite symptoms persist, repeated examinations are necessary because it is not unusual for some abnormality of the bowel or some kinking by adhesions to make the proctoscopic examination unreliable by hiding a small growth behind a twisted segment of bowel. The patient with early carcinoma may have mild symptoms but the attention of the doctor should be directed to this area by the history of blood in the stool, change in bowel habit, increasing constipation, change in character of stool, and unexplained low abdominal pain.

The most frequent delaying mistake is for the patient or the physician to attribute blood in the stool to hemorrhoids and to institute local treatment before making an examination. The next most serious mistake is to have an x-ray examination of the gastrointestinal tract made and accept the negative report as reliable, often without the barium enema. The omission of the proctoscopic examination is next and finally the failure to repeat examinations when symptoms are unexplained.

The following cases illustrate the importance of following this simple routine:

Case 4—#11953.—This 58 year old female patient first consulted her physician six months ago, complaining of the frequent appearance of bright red blood in the stool. Following a superficial examination the diagnosis of hemorrhoids was made and local treatment advised. During the months the constipation increased and the bleeding continued until when first seen by me she was having symptoms of obstruction. Digital rectal examination revealed a large growth in the rectum, proctoscopic examination confirmed this, and the biopsy was reported adenocarcinoma. At operation the growth was found to have infiltrated the surrounding structures and extensive metastases were present in the regional lymph glands and liver.

The error with this patient was the failure of her physician to make a digital examination at her first visit; it would have resulted in the correct diagnosis six months earlier.

Case 5—#11884.—This patient was a man of 65 years. Three months ago he was examined on account of vague low abdominal pain and unusual constipation. Gastrointestinal x-ray examination showed a hiatus hernia and barium enema examination was negative. He was referred to a consultant after three months, digital and proctoscopic examinations found a tumor in the upper rectum and biopsy was reported adenocarcinoma.

At operation the tumor was found in the rectum, the regional lymph nodes contained metastases but the liver was normal.

This diagnosis could have been made at the first visit by simple digital examination.

Case 6—#11881.—This man of 55 years first noted bright blood in the stool one year ago. He reported this to his physician who ordered a gastrointestinal and barium enema x-ray examinations. Nothing abnormal was found. The bleeding occurred at intervals and recently he noted constipation. He was examined by another physician who found a mass on digital examination high up. This was confirmed by proctoscopic examination and biopsy showed adenocarcinoma. Barium enema then showed a defect beginning at the rectosigmoid and extending upward for three inches.

At operation a large growth was found at the rectosigmoid, there was no metastasis and abdominoperineal resection was done.

When first seen by his physician it is probable that digital examination would not have revealed the tumor but it could have been seen through a proctoscope. X-ray examination did not show the growth as would be expected until it had reached great size.

Case 7—#11872.—This 61 year old female patient was studied extensively and observed for two weeks in an excellent hospital. Digital rectal examination and x-ray examination including barium enema were all negative. During the next six months the low abdominal pain and constipation increased. She consulted another physician who by

proctoscopic examination found a tumor in the lower sigmoid.

At operation a large mass was found in the lower sigmoid adherent to surrounding structures and metastases were present in the regional lymph nodes and the liver.

Proctoscopic examination when she was first examined would have disclosed the growth at a stage when it might have been operable.

Case 8—#8508.—This 42 year old female patient reported promptly to her physician after observing blood in the stool on several occasions. He made a digital rectal examination which was negative and referred her to a consultant for proctoscopic examination. This was also negative. She was then referred to me. No significant physical signs were found. Gastrointestinal, barium enema and air contrast x-ray examinations were all negative. Studies for blood dyscrasia by a medical consultant were negative. She had no further symptoms for eight months when the bleeding recurred. Digital examination was negative but proctoscopic examination this time revealed a small tumor in the sigmoid. Biopsy was reported adenocarcinoma.

At operation the sigmoid was found kinked and adherent by adhesions from a previous operation. There was no metastasis. The sigmoid was successfully resected.

If repeated proctoscopic examination had been made the growth would have been discovered several months sooner.

CONCLUSIONS

The physician must be alert to elicit the symptoms indicating a tumor of the colon. These are blood in stool, change in bowel habits, change in the character of the stools and vague abdominal pain. These symptoms should be taken seriously and the colon studied by digital, proctosigmoidoscopic, and x-ray examinations. The last in many cases should be supplemented by air contrast enema. When all are negative and symptoms persist they should be repeated as frequently as indicated.

The prognosis in early colon carcinoma is excellent. Every effort must be made to find these cases early before metastasis has occurred.

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DISCUSSION

DR. T. NEILL BARNETT, Richmond: If I repeat some of the things that Dr. Williams has mentioned, it is meant to emphasize their importance.

The anatomy of the sigmoid colon lends itself very nicely to two examinations from the diagnostic standpoint. Those lesions above the rectosigmoid junction are more readily diagnosed by barium enema x-ray examination, whereas those from the anus to the rectosigmoid junction are diagnosed almost entirely by means of adequate proctoscopic and sigmoidoscopic examination.

He has already described the physiology of the sigmoid and colon in that the rectum should always be empty except during the process of defecation. The sigmoid acts as a reservoir in which the fecal material is accumulated and from which water and the salts of various heavy metals are absorbed.

In doing a proctoscopic and sigmoidoscopic examination three things are essential: first, a well lighted sigmoidoscope and anoscope; second, a well trained examining finger; third, adequate preparation of the patient by a plain water enema administered several hours before. A large percentage of pathology is within reach of the examining finger.

If the rule of having the patient to have a plain water enema some several hours before they are to be sigmoidoscoped is adhered to, we will find a number of small lesions that would be otherwise overlooked.

It is well to remember that at the beginning a cancer is small, it doesn't bloom right out, with the result that we don't have our symptoms of constipation, blood, mucus, and profound change in bowel function in the early stage of the disease.

Several years ago, a very observant physician presented himself with a rather indefinite change of bowel function, so much so that he was more or less apologetic for requesting an examination. He was sigmoidoscoped and just below the rectosigmoid juncture there was found this pedunculated polyp about the size of a large cherry. It was snared off, and when it was sectioned it showed that malignant transformation had already started. He was observed at monthly intervals over a period of years. He never had any recurrence.

If there was ever a pre-cancerous lesion it is a polyp, it makes no difference whether you find it in the rectum, in the sigmoid or in the colon, in the stomach or anywhere. The polyp is a pre-cancerous lesion.

Unfortunately too often blood is too late a symptom of cancer. Probably the most frequent reason for the passage of blood from the rectum is from internal hemorrhoids.

Not long ago, a patient was referred for rectal bleeding. About three months before that she had a hemorrhoidectomy which had been done very satisfactorily in another city, but she continued to have symptoms of passing blood, although no other discomfort. Bowels were very satisfactory. The patient was sigmoidoscoped and about at the eight inch level there was a group of polyps almost encircling the bowel. During process of exami-

nation a specimen was obtained for biopsy. The pathologist reported adeno-carcinoma, grade No. 2. She was operated on most satisfactorily and had no further recurrence. The patient died several years later from a cerebral accident.

About once a month I find a small adenoma in the bowel that if the patient had not been prepared by an enema would be overlooked. It will vary in size from a split pea up to the size of a guinea egg. When the biopsied specimen is sectioned a large percentage show adeno-carcinoma. At the time the biopsy is taken, I cauterize the site for two reasons, to seal off the lymphatics and control bleeding.

On one occasion I had removed such a growth which showed a high grade of malignancy, and the man was advised to have a resection which was done, no other cancerous lesion was found in the specimen resected. He has had no recurrence and even though this was a very extensive mutilating operation I feel that he has been cured of his cancer. If we are going to cure cancer the early lesion, such as this, with adequate treatment is our only hope at this time.

In conclusion, I feel that our diagnosis is of first and paramount importance. A properly prepared field of operation is our greatest aid in making the diagnosis, both from the x-ray standpoint and the sigmoidoscopic examination. The passage of blood, unfortunately, is a late symptom. To get these lesions early enables us to do a more satisfactory operation, resulting in less mortality and less morbidity.

I enjoyed Dr. Williams' most timely presentation on this subject.

Dr. E. Latane Flanagan, Richmond: I have enjoyed Dr. Williams' presentation. The sequence of examination of the colon he mentioned is the logical one, namely, digital, proctoscopic and x-ray. I agree with that procedure 100 per cent. There is one point I wish to emphasize. If a lesion is discovered in the rectum by the examining finger, or in the sigmoid by proctoscopic examination the entire large bowel should be examined by x-ray as multiple lesions may exist. All three of these methods should be used in every examination of the large intestine.

Dr. William A. Johns, Richmond: I want to reiterate what Dr. Williams has said because I think it is a most important subject. I think it is a lesion that is very frequently met and very easily diagnosed. I have one slide which I would like to show to you to show what results can be obtained by following the Golden Rules that have been laid down by Dr. Williams.

These represent the cases that have been seen by Dr. Frank S. Johns, Dr. Daniel and myself over a period of the past 12 years at the Johnston-Willis Hospital in Richmond.

You can see there have been 177 cases and of this 177 there are 150 in which the diagnosis has been obtained early enough to do some type of operative procedure to prolong the life of these patients, or to cure them.

There have been 6 inoperable cases in the rectum and rectosigmoid and one refused operation. In the colon cases there were 19 inoperable ones and one refused operation, so 25 cases were inoperable and 2 refused operation. We feel we are advancing somewhat having 177 cases, 150 of which we have been able to diagnose early enough to do some type of operative procedure—to either cure these individuals or to prolong their lives.

There is one other point I would like to make in speaking of inoperable cases. I believe that if very careful and meticulous pre-operative preparation is carried out on these individuals, especially those that show some degree of obstruction, many of the inoperable cases would be found to be operable, because if any degree of obstruction exists a certain amount of inflammatory reaction will be of necessity exist around the growth and if the patient is explored at that time the bowel will be distended, the growth will be fixed, not due to carcinoma but due to inflammation that is present and many of these cases are declared inoperable, whereas, if the patient had been thoroughly prepared, had been decompressed by one means or the other and time had been allowed for the infection to subside, the growth would have been operable rather than inoperable.

I have enjoyed Dr. Williams discussion very much.

Dr. J. Morrison Hutcheson, Richmond: One point touched upon by Dr. Williams in his excellent discussion might be further emphasized. That is the relation of anemia to carcinoma of the colon, especially to involvement of the ascending colon. Anemia may be the first and only sign, appearing without change in bowel habit, digestive disturbance or evidence of bleeding and the only symptoms may be those due to anemia. In some cases treated for anemia, improvement has been noted following liver and iron therapy. It is wise, therefore, to investigate the colon in any patient past middle age who shows an anemia that is not readily explained.

HEMATURIA AS A MANIFESTATION OF SICKLE CELL DISEASE*

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Two years ago Doctors William H. Higgins, Jr., and Elam C. Toone, Jr., presented an excellent paper to this group entitled, "The Variable Clinical Manifestations of Sickle Cell Anemia",[1] in which they stressed the importance of keeping this disease constantly in mind when dealing with Negroes, because even though the disease is easily diagnosed by laboratory means, its manifestations are so varied that the diagnosis can easily be missed.

Sickle cell anemia is a relatively new disease, the first reported case by J. B. Herick appearing in an article in the *Archives of Internal Medicine* in November, 1910, entitled, "Peculiar Elongated and Sickle-Shaped Red Blood Corpuscles in a Case of Severe Anemia". The second paper on this disease was submitted by Dr. B. E. Wasburn, a Virginian, and was printed in the *Virginia Medical Semi-Monthly* in 1911. A great number of cases have been reported and much experimental work has been done on this disease since that time.

The erythrocytes of certain individuals possess the capacity of undergoing reversible changes in shape in response to changes in the partial pressure of oxygen. When the oxygen pressure is lowered, these cells change their form from the normal biconcave disc to crescent, holly wreaths, and other forms. This process is known as sickling. About 8 per cent of American Negroes possess this characteristic; usually they exhibit no pathological consequences ascribable to it. These people are said to have sicklemia, or sickle cell trait. However, about 1 in 40 of these individuals whose cells are capable of sickling suffer from a severe chronic anemia resulting from excessive destruction of their erythrocytes; and the term sickle cell anemia is applied to their condition.

The main observable difference between the erythrocytes of sickle cell trait and sickle cell anemia has been that a considerably greater reduction in the partial pressure of oxygen is required for a major fraction of the trait cells to sickle than from anemia cells. Tests *in vivo* demonstrated between 30 and 60 per cent of the erythrocytes in the venous circulation of sickle cell anemic individuals, but less than 1 per cent of those in the venous circulation of sicklemic individuals, are normally sickled. Experiments *in vitro* indicate that under sufficient low oxygen pressure, however, all the cells of both types assume the sickled form.

The nature of the phenomenon of sickling of erythrocytes in sickle cell anemia suggests that this disease involves a pathological state of the hemoglobin molecule[2]. The electrophoretic behavior of hemoglobin from individuals with sickle cell anemia and from normal individuals has been studied with the Tiselius apparatus. Both ferrohemoglobin and carbonomonoxyhemoglobin from sickle cell blood and from normal blood were studied in phosphate buffers of 0.01 ionic strength at pH values of 5.7, 7.0, and 8.0. A significant difference was found between the electrophoretic mobilities of hemoglobin derived from sickle cell blood and from normal blood. The curves of mobility against pH are roughly parallel, the isoelectric point of normal hemoglobin being lower than that of sickle cell hemoglobin for each compound. At pH 7.0 sickle cell carbonomonoxyhemoglobin moves as a positive ion while normal carbonomonoxyhemoglobin moves as a negative ion. The most plausible explanation for the observed difference in mobility is that there is a difference in the number of acidic or basic groups in the two hemoglobins, amounting to three or four such groups per molecule. The existence of this difference in the nature of the hemoglobin suggests that the disease itself is a molecular disease, and that the change in shape of the erythrocytes leading to its symptoms is the result of the difference in the properties of the molecules.

The following chart shows the incidence of the sickle cell trait in Negroes of North America as compiled by Dr. Switzer, of Charleston, S.C.[3]:

*Read at the annual meeting of the Medical Society of Virginia at Roanoke, October 8-11, 1950.

Author	Date	Locality	Number Examined	Per cent with Sickle Cell Trait
Syndenstricker, *et alii*	1923	Augusta, Ga.	300	4.3
Cooley and Lee	1926	Detroit, Mich.	400	7.5
Miyamoto and Korb	1927	St. Louis, Mo.	300	6.3
Josephs	1928	Baltimore, Md.	250	6.4
Smith	1928	New Orleans, La.	100	5.0
Wollstein and Kriedel	1928	New York, N. Y.	150	8.66
Levy	1929	New Rochelle, N. Y.	213	5.8
Dolgopol and Stitt	1929	Staten Is., N. Y.	77	5.2
Graham, McCarthy	1930	Birmingham, Ala.	1,500	8.13
Brandau	1930	Houston, Texas	150	6.67
Syndenstricker	1932	Augusta, Ga.	1,800	5.5
Ahmann	1933	Gainesville, Fla.	674	9.6
Diggs, *et alii*	1933	Memphis, Tenn.	2,539	8.3
Beck and Hertz	1935	Philadelphia, Pa.	100	13.0
Hansen-Pruss	1936	Chicago, Ill.	1,263	9.42
Watson, *et alii*	1948	New York, N. Y.	452	8.2
Switzer	1949	Charleston, S. C.	3,066	13.43

Highest incidence was found in ages from 6 to 10 years; 20.7% in males and 18.2% in females. A rapid and accurate method of determining the sickle cell trait has been described by A. W. Williams, and J. P. Mackey, of the Colonial Medical Service, Dar—es—Salaam, Tanganyika.[4] The method utilizes an acid reducing agent which causes no damage to the red cell in isotonic solution but brings about a rapid dissociation of oxyhemoglobin. Sodium hydrosulfite ($Na_2S_2O_4$) is a powerful reducing agent which decomposes in moist air to a mixture of sodium thiosulfate and sodium sulfate. A solution, therefore, will not keep indefinitely. For the preparation of the solution, distilled water which has been freshly boiled and allowed to cool is used. The 2.1 per cent solution is made once a week and kept in a small tube with a covering seal of liquid paraffin. Once the paraffin seal is removed, the tubes should be discarded at the end of the day. A drop of the isotonic sodium hydrosulfite solution is taken up in a finely drawn Pasteur pipette, and about one-sixth of the quantity of blood (from either a skin prick or a venepuncture) is drawn up in apposition to the column of fluid. The whole is then expelled onto a clear slide and rapidly mixed. The slide is inverted onto a cover slip and examined under the 1/6 objective. It is not necessary to seal the cover slip with vaseline. The same pipette may be rinsed in normal saline and used for any number of patients in rapid succession.

If the sickle cell trait is present, sickling will occur in from three to fifteen minutes, and rapidly become definite and generalized. It tends to appear earliest in cells near the edge of the cover slip, possibly owing to the effect of surface tension on the rate of reaction. If there is no sickling after twenty minutes, the blood can be pronounced negative for the sickle cell trait.

Sickling never occurs in normal blood, although the red cells may undergo crenation after half an hour. One hundred African school boys were examined by both the sealed wet preparation, read at forty-eight hours, and the sodium hydrosulfite technic. There was complete agreement, as to both positives and negatives, between the two methods. The sodium hydrosulfite technic always gave clear-cut results within twenty minutes, whereas, with the sealed wet preparation, the reading was sometimes still doubtful after twenty-four hours.

Hematuria as a manifestation of sickle cell disease has been discussed recently in articles by Drs. Abel and Brown[5]; Drs. Goodwin *et al.*[6]; and Drs. Fetter and Schnabel[7]. They cite the first reported cases of blood in the urine due to sickle cell disease. We are reporting one definite case as proven by microsection of the nephrectomized kidney and another very probable case with variable clinical manifestations and a definite large calculus in the lower pole of the right kidney. Due to the great risk involved in this latter case, surgery was indefinitely postponed.

Our interest in this problem as urologists was in-

itiated by a case of unexplained hematuria on whom a nephrectomy was performed, and the diagnosis made after histological sections were examined.

This case was that of a 22 year old, colored, World War II veteran, who entered the hospital on June 28, 1948, with a chief complaint of passing bright red blood in his urine for four weeks prior to admission to the hospital. He denied nocturia, burning on urination, frequency, or hesitancy. Past history was essentially negative. Complete examination was negative except for gross blood in the urine. Cystoscopic examination showed blood to be spurting from the left ureteral orifice. Retrograde pyelography was negative. On bed rest, bleeding stopped, and a week after cystoscopy the urine showed 6 - 8 red blood cells per high powered field.

Three weeks after admission, he again began to pass blood in his urine and a sickle cell test by the paraffin wet method performed on July 26 was reported as negative for sickling. He continued to bleed and a repeat retrograde pyelography on August 5th showed no apparent reason for the bleeding from the left kidney. A left nephrectomy was performed that same day.

A few days later the pathologist reported a grossly normal kidney, but on microscopic examination of the sections the red cells were reported to be clumped and sickled in the papillae of the kidney. A repeat blood smear for sickling was done and sickling was reported as positive.

X-ray of the chest, skull, and sella were all negative. Sterile specimens from each kidney taken prior to operation were negative for organisms. Guinea pig inoculation was negative for tuberculosis. Red blood count 3,780,000; hemoglobin 75% on admission. Prior to discharge the red blood count was 4,630,000; hemoglobin 84%. Urinalyses revealed the following specific gravity in order of their performance: 1.012, 1.010, 1.011, 1.016, 1.014, 1.018, and 1.012. Several urinalyses prior to discharge showed no red blood cells in the urine.

The next case was that of a colored, 54 year old male, who entered the hospital on April 18, 1950, complaining of passing blood in his urine intermittently for 3 months. On examination patient was slightly dyspneic with moist rales at both bases. An auricular flutter was present and a diagnosis of cardiac decompensation due to heart disease of undetermined type was given to him. Neurological examination showed spasticity of all extremities and some atrophy of the left shoulder girdle, leg, and arm, unaccompanied by any changes. The urine concentration test showed specific gravities of 1.012, 1.010, 1.013, 1.013, 1.015, and 1.016. K.U.B. and I.V.P. revealed a calculus measuring 2 cm. in diameter in the inferior calyx of the right kidney. There was gross blood in the urine.

In his past history, the patient admitted having a penile lesion in 1908 which was burned off by his private physician. In 1918, he received three shots of "606". In 1940, he began to receive anti-luetic treatment in a Norfolk Clinic and continued his treatment for three years. Our records show that in 1945 a diagnosis of amyotrophic meningomyelitis luetics was made. Urine at that time (1945) showed a specific gravity of 1.024. He had a negative Wassermann and Kahn.

The spinal fluid was negative. After the negative fluid was reported, the diagnosis was changed to amyotrophic lateral sclerosis. On June 27, 1947, he was admitted to this hospital with two small shallow ulcers on his right lower leg that would not heal. He stated at that time that he had had trouble with ulcers on his right leg for thirteen years.

While in the hospital, his EKG revealed an auricular flutter varying from 2:1 to 4:1. X-ray of the chest showed pulmonary congestion at both bases. On digitoxin, quinidine, and bed rest, his pulse became normal, lungs cleared, and edema subsided. Repeated blood smears for sickling varied from 80% to 100% sickling. Patient was observed for several weeks, and urine became negative for red cells. His urine concentration varied from 1.012 to 1.018. During his period of observation, it was felt that the calculus in the lower pole of the right kidney was not the primary factor in the hematuria found in this patient. With the findings of sickling of the red blood cells it was decided that the calculus was probably secondary to the sickle cell disease. This case represents a case of sickle cell disease with its many and varied clinical manifestations.

He was discharged as improved, and advised to return to the hospital if he passed any blood in his urine; otherwise, to return in sixty days for examination. It was deemed inadvisable to subject this patient to surgery at that time.

A genetic basis for the capacity of erythrocytes to sickle was recognized early in the study of this dis-

ease, and it was suggested that a single dominant gene was involved, but the distinction between sicklemia and sickle cell anemia was not clearly understood at the time. The literature contains conflicting statements concerning the nature of the genetic mechanisms involved, but, recently, Neel has reported an investigation which strongly indicates that the gene responsible for the sickling characteristic is in heterozygous condition in individuals with sicklemia, and homozygous in those with sickle cell anemia.

There has been considerable variance of opinion as to the significance of sicklemia or the sickle cell trait. Sherman[8] is of the opinion that the sickle cell trait in the absence of anemia is of little clinical signficance, while Bauer[9] states that patients with the sickling phenomenon do not die as a rule from the anemia but may die from circulatory stasis in some vital organ.

A review of our autopsies in the past few years revealed several cases who died from apparently minor injuries, and in pathological sections clumping of sickled cells were noted in various organs as the the brain, lung, and kidneys.

Summary:

1. Hematuria may be the only clinical manifestation of sickle cell disease, as was noted in our first case, or may be only one of the many and varied manifestations of the disease.

2. The incidence of the disease in Negroes is sufficiently high to warrant a sickling test on all Negro patients where the diagnosis is not immediately apparent, and a routine sickling test seems justified in all hospitalized Negro patients.

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Discussion

Dr. J. H. Scherer, Richmond: This is a very important paper, important because it should point out to you and me how inefficiently the handling of Negro patients has been.

It is amazing that only within the last several years, as pointed out by this paper, hematuria in sickle cell disease has been reported.

When one considers the pathology of sickle cell disease, thrombosis of blood anywhere in the body, it is perfectly obvious that hematuria is to be suspected.

And the paper again reiterates that the most imporatnt laboratory examination in a diagnostic problem in the Negro is a test for sickle cell anemia. Blood counts are secondary to a sickle cell preparation even in the acute abdomen in a Negro.

We have been particularly interested in sickle cell anemia because of patients seen in the pediatric service with coma, paralysis, blindness and deafness. All of these come in at the Medical College of Virginia usually on other services and, finally, often as a life-saving measure, have gone to pediatrics where the diagnosis has been made. This is an extremely important paper if we will remember that of real concern in a diagnostic decision with the Negro is sickle cell anemia.

I am particularly interested, as has been suggested in this paper, in the genetic relationship of sickle cell anemia. Dr. Watson James, at the Medical College, who is doing work on the electrophrontic pattern of sickle cell anemia, as is a group in California which has reported this work, shows very definitely now that it is quite a problem and that, in addition to the factor with which you are confused, you are now beginning to be confused with the abstract. There seems to be no doubt that sickle cell anemia represents a genetic relationship—and Dr. James is my authority for this—represents a specific blood type, shall we say, which we may have to contend with in the future. It makes us wonder whether the widespread use of Negro blood in white patients, now quite common through commercial banks particularly, is going to result in any harmful effect. So far no antibody has been demonstrated, but we wonder whether the future may see such an antibody discovered.

I have enjoyed the paper and hope you have, and from the paper have learned that the most important labora-

tory examination in a Negro diagnostic problem is a sickle cell preparation.

DR. WILLIAM H. HIGGINS, JR., Richmond: I have enjoyed this paper a great deal. It certainly has been pointed out well the importance of the routine sickling preparation in all Negro patients, particularly in those who have any diagnostic problem.

Several years ago Dr. Elam Toone and I had occasion to review some ninety or more patients' records who had been admitted to Medical College of Virginia Hospital in the previous ten years because of sickle cell anemia, or rather who had been found to have sickle cell anemia, and we studied the various clinical manifestations. We were very interested to find, among other features in these patients, that they had evidence of renal disease, manifested particularly by an almost invariably low specific gravity of the urine. Fifteen had a history of polyuria and in 6 there was an associated polydypsia. A number had stones and a few had priapism. Several had poor renal function. That particular problem had not been investigated at the time most of the patients were in the hospital, so the records were incomplete in this point. Since that time we have been interested to run dilution-concentration tests on several patients and we found that they had very poor ability to concentrate their urine. We also found that the NPN was slightly elevated, not markedly, but definitely so. We have no explanation for this.

I would like to ask several questions. First, if Dr. Varano has found any evidence of renal failure, particularly poor renal function, in his cases, and whether he has found also any instance of polyuria or polydypsia, and if he has any explanation for those findings?

I certainly have enjoyed this paper and agree again that in all cases where there is any type of problem that isn't immediately apparent in the Negro, the sickle cell test should be done.

DR. VARANO, in closing: Unfortunately, we do not have a large series of cases, and I am not able to say very much about the kidney function in sickle cell disease.

In our cases there was no polyuria or frequency or any symptom that would direct your attention to the kidneys, except the blood which was noted in the urine.

In Dr. Levy's case of the fourteen-year-old boy with 80 per cent sickling, I would guess that he has some kidney damage if he is putting out blood in his urine through his kidney, but I think time alone will tell.

I want to thank the doctors for their discussions and kind words.

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Eternal Eve; the history of gynaecology and obstetrics (by) Harvey Graham (pseud.) Garden City, N.Y., Doubleday, 1951. xx, 699 p. illus. 24 cm.

Eternal Eve is a delightful, gossipy history of obstetrics and gynecology. It contains every obstetrical story I ever heard and every picture that has any history connected with it all strung together in a narrative that gives one a good idea of the history of these two branches of medicine.

The author is associate editor of the *British Medical Journal* and is the editor of the new popular health magazine that the British Medical Association is starting this year. (1951)

THE PLACE OF THE GENERAL PRACTITIONER IN THE GENERAL HOSPITAL*

John O. Boyd, Jr., M.D.,
Roanoke, Virginia.

All of us are aware of the remarkable trend toward specialization which has been so evident in the first half of this century. During this time the standard of medicine, as we know it, has improved more rapidly than during any other comparable period in our history. That specialization, in part, has been responsible for this improvement is undebatable. However, specialization can be carried too far and when this occurs is not without real dangers to the profession. Perhaps the first recognition of this potential danger was called to our attention by Susruta, a physician in India in the sixth century A. D. who remarked, "He who knows only one branch of his art, is like a bird with one wing".

One result of this trend, not at first appreciated by the profession nor by the public, was the effect observed on general practice and general practitioners. Prestige was obtained, and expected as a matter of course, by the man in a specialty field and as his prestige increased the prestige of the general practitioner seemed to decrease. As this developed the frequency with which one saw the general practitioner in hospitals became less and less. This reached its culmination just before and immediately following the second world war when a number of hospital staffs became "closed" in the sense that staff membership was only granted to men who were recognized specialists. It was quite natural that this caused further deterioration of the position of the general practitioner.

Please don't let me give you the impression that I feel this was entirely the responsibility of the specialists—this is in reality far from the truth. The general practitioners had failed to busy themselves with attending meetings and keeping up with progress in medicine and their exclusion was in a large measure their own fault. Moreover, general practitioners were in no sense organized, had no strong representation in the larger medical societies, and, therefore, had no voice through which they could express themselves or defend their position. The result was that whereas specialists became increasingly well organized, general practitioners went their independent ways with a wide variation in the quality of medical service they rendered as well as considerable variation in the positions they enjoyed in their communities. It followed that an increasing number of students decided to go into specialties and there were practically no medical graduates who deliberately entered the field of general practice.

World War II served to bring the situation into clearer focus and, in 1946, the American Medical Association passed the first resolutions calling attention to the fact that there was a need for more men in general practice. Resolutions were passed calling attention to the dearth of general practitioners and their ability to obtain hospital care for their patients in many cities. The organization of the American Academy of General Practice in 1947 lent added interest to the recognition of the plight of the general practitioner and resulted in further resolutions being passed by the House of Delegates of the A.M.A. calling the attention of the hospitals to their responsibilities in setting up services for general practioners who were qualified.

Since that time the situation has been under constant study by all groups in organized medicine. In February of this year (1950) the A.A.G.P. approved a "Manual for the Establishment and Operation of a General Practice Department in Hospitals" which was the result of conferences between representatives of its hospital committee, the Council on Medical Education and Hospitals of the A.M.A., Dr. MacEachern of the American College of Surgeons, and the American Hospital Association. Principles outlined in this manual have since been endorsed by the Council on Medical Education and Hospitals and cited by the House of Delegates of the A.M.A. in San Francisco. The American College of Surgeons, through Dr. MacEachern who at the time was director of the College, endorsed the principles expressed in the manual and the American Hospital Association has gone along. Most recently

*Presented before the Medical Society of Virginia in Roanoke, October 1950.

the Catholic Hospital Association, meeting in Milwaukee, had a panel discussion on this subject and, subsequent to that meeting, an editorial appeared in *Catholic Hospital Journal* which directs Catholic institutions to set up general practice departments wherever possible.

Most of us are too ignorant of basic hospital organization, as outlined in the "Manual of Hospital Standardization" of the American College of Surgeons, to fully understand what is intended in this movement. However, you will all be gratified to know that the motivating factor was one of integration and in no instance is it desired completely to upset or dispossess any individual enjoying appointment to a hospital staff.

Through specialization and the establishment of specialty boards it became increasingly possible for the local hospital through its staff to wave any responsibility regarding professional competency of its membership so long as they were certified by one of the specialty boards. As a result there was disinterest on the part of the staff in the work done by the members of the staff after they obtained their appointment. The absence of any national standardizing body or medium is one big reason that general practitioners had been excluded from membership on the hospital staff. Many have asked why a board for general practice was not established when it would have solved this problem but to those of us working with it this did not seem to be the desirable answer. It is difficult to catalog the man in general practice through any fixed examination on a national scale and, as this discussion developed, it was agreed by all concerned that it would have to be a matter of individual examination and evaluation in the locale in which the man worked.

This has resulted in a somewhat new approach to this problem. No longer are we primarily concerned with a man's previous training, membership in any special society or board, or any other prerequisite than his personal professional capacity. This sounds reasonable and easy but to set up a program whereby it can be effected in the hospital has proved a much larger problem.

Several things are considered basic to the operation of this principle. In the first place, it is necessary to establish a department of general practice through which general practitioners on the staff will be appointed. Men will be appointed to this department in the same categories of staff appointment, that is associate, active, courtesy and consulting, as in the other departments. However, it will be only an administrative department and its members will serve in clinical services which will be operated by the department of surgery and the department of medicine. Through the department, however, the general practitioners will be guaranteed representation on the Executive Committee, the Credentials Committee and other important standing committees of the staff. It is recommended that the department of general practice operate the "out patient" section. Through the medium of the "out patient" section, men in the general practice department will have an opportunity to acquire knowledge and skills, as they develop a further interest in special fields, under the guidance of those already appointed to the specialty services in the "out patient" departments. It is hoped that the development of this thesis will yield a solution to the increasingly important question of introducing the general practitioner to the medical school where his influence must be felt by the students if more men are to be attracted to this field.

We have already stated that the members of the general practice department will serve in clinical services maintained by the departments of medicine and surgery. The basic privilege these men in general practice will enjoy in these services will of necessity be defined in the amendments of the Constitution and By-Laws establishing this department. It is suggested that these be divided into basic privilege and additional privilege.

Basic privilege has been defined in the Manual above referred to as privilege in internal medicine, pediatrics, obstetrics (to include outlet forceps, episiotomy, cervical and perineal repair) and surgery as shall be determined for each individual applicant. In most instances, the initial basic surgical privilege will consist of the treatment of simple lacerations and contusions which can be adequately handled in the emergency room.

The procedure of granting additional privilege in the specialty services comprises the principal difficulty in working out this thesis. As the medical staff sets up Credential Committees, Tissue Committees, and if in the future we are able to go forward with periodic medical audits, it will be much easier to evaluate the work of the staff and the privilege the general practitioner should then enjoy within the

specialty services in which he has been granted privilege. It is felt that he should in all instances be judged objectively on the same basis as other men accorded privilege in these specialty fields when he has demonstrated his ability to warrant such appointment. This should be obtained through specific application for additional privilege in the specialty service concerned which would be submitted as would an application for staff membership. This would be reviewed by the chief of the general practice department with the Credentials Committee who would then recommend action in one of the following ways: (1) A period of observation by the chief of the service concerned or his appointed representatives; (2) The refusal of consideration for additional privilege; (3) The recommendation that formal postgraduate training be sought by the applicant before observing him in the hospital. If the first course is followed, the chief of the specialty service concerned will make such observation of the applicant as in his opinion is necessary and, after a suitable period of time, he will make his recommendations to the Credentials Committee. If he recommends appointment of the individual, this will be conveyed to the executive committee and recommended to the board in the usual manner and, if the privilege is granted, the man will be so notified. If his recommendation is not favorable, the applicant will have the right to appeal before the executive committee and/or the staff. When appointed to this additional privilege, such appointment will be specific and the specialty service concerned will be notified as to the privilege the member of the general practice department will henceforth enjoy in the specialty service.

I have endeavored to review with you the problem of the general practitioner in the general hospital and acquaint you with the recommendations the American Academy of General Practice, the American Medical Association, the American College of Surgeons, and the Catholic Hospital Association have made regarding this problem. Further, an effort has been made to familiarize you in general with a plan, acceptable to these agencies, whereby it is believed the general practitioner can be integrated in the staff of the general hospital to the benefit of the patient, the hospital and the staff.

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Discussion

Dr. Kinloch Nelson, Richmond: We have spent a lot of time on this problem in the past several years. I would like to review some of our experiences.

There is a feeling here and there that the medical schools are not sufficiently concerned with the general practitioner's training and status. At the request of the Administration of the Medical College of Virginia we have been trying to evolve some type of internship or residency for the proper training of a man going into general practice. As everyone knows, there exists a curious paradox in that a man expecting to follow some specialty is required to have several years of training, whereas a man aiming toward general practice is expected to learn everything in a year.

We have approached this peculiar situation in several ways. As students we never saw any patients who hadn't already been examined by several other doctors. We saw many cases who had been filtered through various clinics and other services until they finally got in the hospital. Consequently, we were faced with and taught on only the most abstruse problems, pathological curiosities a practitioner would not meet in twenty-five years. This seems like an odd situation. In an effort to remedy this obviously absurd situation students are being taught more and more in the out-patient clinics. To broaden this effort we have recently established the Home Care Service on which all senior students spend at least three weeks. They go out in pairs to answer calls from the poor if Richmond. They see these people before any other doctor does. They become quite familiar with the measles, mumps, alcoholism, sanitation problems, etc. Their observations are recorded and then checked by members of the faculty who visit these patients with them and attempt to solve the diagnostic and therapeutic situation existing at the time. The students have been very enthusiastic about this work. It is hoped that some will be influenced to go into practice who had not considered it before.

The problem of internship or residency training for the general practitioner is a very complicated one. I have discussed it with many men who are devoting themselves to practice, teaching, industrial work, and other fields. One of the greatest difficulties is the uncertainty of the graduate as to what field he will enter. Obviously we cannot set up adequate training programs if the trainee has no idea what he wants, when the trainer is uncertain what he ought to have. We approached this situation by arranging two-year rotating internships, chiefly emphasizing pediatrics, obstetrics, and medicine. We polled the class of one hundred as to what their future plans were. Over 60 per cent indicated that they were going into general practice; yet for the four internships of the above type we had one applicant. We have had to discontinue these rotations. We created two so-called residencies in general practice. These men were in general charge of the Home Care Program and worked in various clinics with opportunity to attend conferences and teaching exercises. We were able to pay these men a small salary.

Their reaction was a complicated one but they were greatly dissatisfied and these positions also have been discontinued.

The medical schools are seriously concerned with this field of general practice. Every one would like to create a general practice service, to have students associated with general practitioners, and to have the students see the general practice of medicine rather than peculiar sifted-out cases, but it is a very difficult situation. I personally believe that the practitioners themselves should have some definitive plan as have the other specialties. Thus a man who wishes to be an internist knows he must equip himself along certain lines; the same is true of the surgeon, orthopedist, etc., but there is no such scheme for the general practitioner.

I enjoyed Dr. Boyd's paper very much. He has discussed an extremely complicated problem, and I join with him in hoping it can be solved in the next few years.

DR. C. C. COLEMAN, Richmond: I think I am one of the original general practitioners in Virginia. I practiced medicine on horseback in the mountains of Virginia, oftentimes trying to give a hypodermic by the dull flare of a pine knot, oftentimes in a house where there was very little roof. I guess doctors have improved a lot since then, but I do not know how they are going to settle this question. I do not think the general practitioner gets a square deal, exactly. I did general practice for six years and general surgery seven years, and now I am in another field. They talked about general practice in school, but not a single one of them ever did it. They are all specialists, and if you put them all together I guess they would make one good general practitioner. A few weeks ago I was in England, where the question of general practice was spoken of in very solemn tones. Everybody wants it, but nobody knows how to get it. Dr. Nelson said sixty per cent of them wanted to get into general practice. I believe it is a matter that we have to be concerned about, and I do not think for one instant that it is anywhere near solution.

DR. E. E. HADDOCK, Richmond: I do not know of any subject closer to my heart than this one, which has been brought up to the discussion point by Dr. Nelson and followed through by others. I certainly congratulate Dr. Boyd on his fine paper and I congratulate him on the cause to which he has dedicated himself for no selfish reason at all. He is a general practitioner who practices in a locality where everyone respects the general practioner for what he is; he has no axe to grind except to see the general practitioner get the things to which he is entitled. So I admire John for the interest to which he has dedicated himself.

I am also thankful for this great group of doctors we have here in Virginia. I am thankful we can tell you folks here this afternoon the things we have been privileged to tell you. Dr. Coleman is probably the dean of all specialists in the State, and he is certainly not holding us back.

I think the darkest day of the general practitioner was when I graduated from school back in 1938. I wanted to be a general practitioner; I wanted to qualify myself to do general practice, and I did not want to stop with one-year's rotating internship. I fortunately was able to get into one of the best hospitals in the country and took 14 months' internship. I came back and took a year of internal medicine at the Medical College of Virginia. Then I thought I was ready to do general practice. I took three months under an eye, ear, nose, and throat man in Wisconsin and took out 150 pairs of tonsils. I even did some of his private work, and his patients did not know it. I thought I could take out a fair pair of tonsils, and I came back to Richmond and asked for privileges. I did not get them. I wanted the privilege of doing minor surgery. I did not get it. That was the darkest day of the general practitioner.

But then the A.M.A. began to get wise. Then the great surgeon, Dr. MacEachern, got interested. Our great, outstanding speaker, Dr. Murphy, the youthful dean of the Kansas Medical School, who will speak to you in a few minutes, has done some outstanding things. He has made himself famous the world over by what he has thought up on how to train the general practitioner, how to fit him better for his role. I hope he will point out to you how to train these men better for general practice, how to make them want to be general practitioners. When he gets through with them they do not want to be specialists; they want to be family doctors.

In conclusion, I wish to say that I do not want you and Dr. Boyd does not want you to allow the general practitioner to do anything for which he is not qualified. We are just as anxious for you not to allow him to do things for which he is not qualified as we are for you to grant him opportunity to do the things for which he is qualified.

DR. HAROLD MILLER, Woodstock: I know the time is late and I do not want to impose on you, but I certainly feel compelled to make some comments on this subject, in which I am very much interested.

It seems to me that the subject ought to be discussed under two headings, actually. All of us from the Medical College of Virginia are very proud of what Dr. Nelson told us, which has to do with the training of medical students. The other side is that of the general practitioner wanting hospital privileges. Those are two different and separate entities.

It seems to me that one might be handled by taking a cue from the State Board of Education. The curriculum in the high schools is based on the premise that all of the students are going to college, whereas actually only 18 per cent go to college. This program Dr. Nelson told us about is certainly a very important program and might be incorporated in the senior year and the students made to take it.

As to the general practitioner's wanting hospital privileges, that is another thing. I run a small hospital, and if I did not have the work of the general practitioners I could not get along. Many specialists are doing what they are doing in order not to have to do what they do not

want to do. I made a study some time ago and, out of 85 hospitals in the State of Virginia, 72 allowed general practitioners privileges in those hospitals.

I think this thing will be worked out. The fine spirit of cooperation manifested by the men in general practice as well as by the hospitals is proof to me that it will be worked out.

Dr. Boyd, closing the discussion: I am grateful to my friend, Kinloch Nelson. We have discussed this thing many times. I am very happy that the Medical College of Virginia is trying to find a real solution to this problem. We are not going to find a solution in a hurry or by any fixed formula. As Dr. Nelson pointed out, this is a plan which we hope will lead us along to a more satisfactory solution. At least we shall get a start.

I do take issue with Dr. Nelson on one thing he said. The general practitioner today does not claim to know everything. What he does do is to know what he does not know. I believe that today any man who knows what he does not know is practicing honest medicine and certainly is not doing his patient any detriment. The majority of the harm is done by the man who, through stupidity or willfulness or ignorance, enters into something that he does not know.

The hospitals should be available to the general practitioner. You cannot keep him informed through journals. He is too busy to read what he would like to read, just as you specialists are. He is too busy making calls. You keep up your specialties through your hospital association with your colleagues and through consultations with them about the patients you attend. I feel that if a place is made for the general practitioner in the hospitals you will make it possible for him to keep up and will encourage him to increase his ability and his knowledge.

I think in the home-care program of the Medical College of Virginia you will find a great deal of similarity to the program Dr. Murphy is going to tell you about, which I am sure you will find very interesting.

I cannot explain to Dr. Nelson nor offer a possible reason why he has had only one applicant when in our hospital in Roanoke we have set up a somewhat comparable program, not so well manned, and we have six people. We have three from your medical school, for whom we are very grateful. They are very excellent house officers.

I should like to offer an explanation as to why you cannot hold them there, and that is that you do not have a general practitioner on your staff. I was discussing this with Dr. Haag and Mr. Bateman one time. Mr. Bateman said he had no general practitioners, and I gave him the definition the A.M.A. accepted. He said: "We have only one general practitioner on the staff at the Medical College, and that is Dr. C. C. Coleman." I think that is true.

I hope we can set up, with the help of the Medical College, several things we have discussed. Among them is large admissions clinic such as we had in many military hospitals during the war, from which people would be routed to the medical ward, the surgical ward, or what not. It seems to me that such a clinic could be set up in connection with the Medical College, where it will not interfere with your residency program and will make it possible for men to obtain training in diagnosis and so forth. Then set up a man on your faculty to encourage and interest the sixty per cent who say they want to take up general practice.

The fact that there is a twofold problem is very definite. We have all agreed to it, and I think that calls attention to it.

I want to thank you gentlemen very much for your discussions and for your very undeserved charity for some of the things we have done. I appreciate your attention to the problem. It is one in which I have been interested, and I am glad to find so many others interested in it also.

Danger in Overdoses of Vitamin A.

Don't give your child more than the prescribed amount of vitamin A on the theory that this will remedy an insufficiency much sooner. Instead it may cause a swelling of bones and soft tisssue and bring on distress. This danger was cited in the July 28 *J.A.M.A.* by Dr. Irving E. Rineberg of St. Peter's General Hospital, New Brunswick, N.J., and Robert J. Gross of the New York Medical College, New York.

They reported a case involving a 33-months-old girl. The child at the age of two had been put on a dietary vitamin supplement of vitamin A and D because of a diagnosis of mild rickets. The daily dosage was fixed at five drops of a particular product.

Nine months later, the child had developed a swelling in the left ankle and walked with a limp. A swelling of the wrist also occurred, and the girl experienced pain on moving the wrists. Upon being hospitalized, it was found that the mother, desiring to make up the deficiency of vitamin D quickly, gave the child one teaspoonful of the preparation daily. This had been continued for nearly nine months.

The child recovered spontaneously when the vitamin preparation was discontinued. The symptoms returned when administration was resumed and disappeared again when the medication was stopped.

CHOLELITHIASIS NOT RECOGNIZED BY CHOLECYSTOGRAM

GERSHON J. LEVIN, M.D., F.I.C.S.,
Norfolk, Virginia.

It is felt that the incidence of cholelithiasis which is not supported by roentgenological studies is a subject deserving consideration, especially since the most important disease of the biliary tract is cholecystitis with or without calculi. The necessity of surgery in either of these conditions is still under great controversy. The subacutely inflamed gallbladder and the so-called "silent" stones have, by some, been regarded as innocuous. The statistics indicate that certain individuals do escape the penalties of this pathologic condition in the biliary tract, but they give no data on the equally impressive fact that stones which are "silent", sometimes even for years, may cause sudden and irrevocable disaster.

So frequently do conditions of obstructions, perforation and inflammation of the cystic and common ducts, with secondary liver damage and pancreatitis occur, that gallstones should never be considered as innocuous, even though "silent", and in all cases should be considered an indication for surgery. Therefore, accuracy of diagnosis is of the utmost importance.

A completely typical history of mild to excruciating upper abdominal pain radiating to the angles or the scapula and sometimes to the neck, accompanied by nausea and vomiting associated with a pre-existing history of intolerance to fried, greasy foods is certainly suspicious of underlying gallbladder disease. This, plus the clinical findings of tenderness in the right upper quadrant, enhances the probability of this diagnosis.

According to Feldman, the accuracy of diagnosis following cholecystography varies from 88 to 98%. Many authors point out that the normal roentgenographic picture of the gallbladder does not invariably denote one which is free from disease. Kinklin directs attention to the fact that the normal cholecystogram is relatively less reliable than the abnormal one; and Burden found that the percentage of error in the normal cholecystogram is about 26%. Also, Case has shown that the normal report was worth about 83.4% in excluding gross disease in the gallbladder.

It is agreed upon by all that the absence of a gallbladder shadow is almost pathognomonic of a gross abnormal state in the biliary tract and that in the majority of instances the gallbladder is diseased. Stewart and Illick report that 60% of cases showing no shadow revealed a stone in the cystic duct. In Feldman's experience non-filling of the gallbladder was found to be due to stones in 90% of cases, while Case reported that gallstones were found in 73.4% of cases presenting a non-filling gallbladder.

An analytical report of 1,104 cases in which stones in the gallbladder or bile ducts was diagnosed and operated upon at the Lahey Clinic over a four year period presents the following statistics:

Of the above total cases, 910 were x-rayed and a correct diagnosis was made in 888 cases or 98.6%. In 559 cases, stones were visualized, either with or without the gallbladder dye. A diagnosis of non-functioning gallbladder was made in 197 cases (21.6%) and in all but 25 of these cases stones were found at operation, while 19 of the 25 cases showed microscopic evidence of chronic cholecystitis.

It may be well to explain that the absence of a shadow in common duct obstruction is due to the damming back of bile into the biliary radicles and thus the dye is prevented from reaching the gallbladder. It is also known that a normal gallbladder may not fill if a spasm of the spinchter of Oddi exists, which is frequently associated with a spastic condition elsewhere in the digestive tract, such as in duodenal ulcer or irritable colon. In cases of chronic cholecystitis, the non-visualization is due to failure of the gallbladder to concentrate the dye.

Not more than ten to thirty per cent of gallstones contain sufficient calcium to be revealed on the flat film as positive stones. Thus gallstones of low calcium content, mixed or cholesterin in type are shown only after the gallbladder has been filled with dye. It should also be remembered that peptic ulcer or achlohydria may result in a non-filling gallbladder, and diabetes will usually show an abnormal cholecystogram. Another condition that will alter the cholecystogram and usually cause non-filling is pri-

mary carcinoma of the gallbladder. It is frequently confused with cholelithiasis, which is usually present. Primary carcinoma of the gallbladder is most frequently diagnosed in the operating room, as illustrated by one of my cases.

The importance of attempting to arrive at a correct diagnosis in these cases of non-filling gallbladders cannot be over-emphasized. In a similar manner, those cases who present a fairly typical history of gallbladder attacks but who show relatively normal gallbladder visualization and function on cholecystographic examination, present a problem that may indeed be baffling. These cases are frequently labelled as "neurotics", and go from physician to physician seeking aid from their recurrent distress.

Case No. A43886. Mr. H. L. F., a white male, 57 years of age, upon whom I had performed a subtotal gastric resection in 1940, was referred back to me for consultation because of repeated attacks of chills, fever and marked jaundice during the past four months. There was no history of abdominal pain, nausea or vomiting and all clinical findings were indefinite. Repeat x-ray studies failed to show any concentration of dye within the gallbladder or any calculi. Nevertheless, gallbladder disease was suspected. Exploration showed a small gallbladder with a complete obstruction of the common duct caused by a very large impacted stone. This patient made a very satisfactory recovery and is again performing all of his duties.

Case No. A61039. Mrs. A. R. G., a white female, 60 years of age, was referred to me for surgical consultation because of a failure to obtain relief from a medical regimen. During the past five years, this patient has had repeated attacks of indigestion, right upper quadrant pain that radiated to her back and residual soreness. Her condition became so acute that she was unable to take nourishment beyond liquids and was confined to her bed. Repeated x-ray studies early in her disease failed to show gallbladder disease or calculi. Her studies prior to surgery showed a mass in the hepatic flexure of the colon and a non-filling gallbladder. Exploration demonstrated a primary carcinoma of the gallbladder with metastasis to the hepatic flexure of the colon and numerous gallbladder calculi.

Case No. 62594. Mrs. L. V. D., a white female, 66 years of age. This patient had been under my observation since 1938 following a radical mastectomy of the right breast for carcinoma. During the past three years she has had recurrent attacks of right upper quadrant pains that radiated to her right shoulder blade and were accompanied by nausea and vomiting. Her last attack began eight days prior to admission to the hospital. This attack was most severe and was accompanied by marked jaundice with an icterus index of 55. Two cholecystograms showed a non-filling gallbladder and no opaque calculi were noted. Exploration on December 27th, 1949, proved not only cholelithiasis but choledocholithiasis. This patient has made a complete recovery and is well today.

Case No. A5424. Mrs. I. L. T., a 47 year old white female, whose history dates back to eight years ago, when she began with attacks of right upper quadrant pains accompanied by nausea and vomiting. In several of these attacks, she stated that her urine was dark in color and her skin appeared yellow. These would last for 1-3 days and then subside. Bland diet and antispasmodics have been of very little benefit and three x-ray studies spaced during the eight year period showed no opaque calculi and no definite filling of the gallbladder. When seen in consultation, after a complete medical survey had been made, an exploration was advised because of the patient's distress and fairly characteristic gallbladder history. At operation a common duct obstruction by calculi as well as gallbladder stones was demonstrated.

The above cases are representative and typical of the remainder of my series.

In conclusion, I should like to emphasize the fallacy of depending upon one or two indefinite cholecystograms when a patient persists with symptoms that indicate gallbladder disease. When gallstones are visualized the diagnosis is made, but the possibility of their presence in spite of negative cholecystographic findings makes it imperative never to lose sight of the fact that the essential point in the diagnosis may be a typical history alone.

The many complications that result from delay in the treatment of patients with gallstones could be avoided by early recognition and early surgical interference.

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600 Wainwright Building

Infants Are Big Beneficiaries of Advances in Medical Science.

Newborn babies and infants under one year of age have been among those to benefit most from advances in medical science and the efforts of public health agencies during the first half of the century, according to Matthew Taback, A.M., director of the bureau of biostatistics, Baltimore City Health Department.

Writing in the July 7 J.A.M.A., he said that approximately 20 babies out of every 100 delivered alive in Baltimore in 1900 failed to reach their first birthday. A review of present day records indicates that the mortality rate has decreased at an "unbelievable rate" and now stands at about three infant deaths per 100 live births, a decline of 85 per cent since 1900.

Commenting on the death rate of 50 years ago, Mr. Taback said:

"The loss of human life and wasted pregnancy occasioned by the existence of such a high infant mortality rate are difficult to comprehend. Principal causes of infant deaths in 1900 were diarrhea, pneumonia, acute communicable diseases, prematurity and congenital malformations."

The principal causes of infant deaths today, he said, are prematurity, congenital malformations and birth injury.

He pointed out that in a belief that further savings of human life can be achieved, Baltimore registration offices are now requesting data that will assist in the study of factors associated with prematurity, congenital malformations and complications of pregnancy. The information in birth records includes length of pregnancy, birth weight, complications of pregnancy and labor, operations for delivery and a description of birth injuries or congenital malformations when present.

New Books.

The following are some of the newer books at the Tompkins-McCaw Library of the Medical College of Virginia, Richmond, and are available to our readers under usual library rules:

Alexander—Operating room technic, 1951.
Colonna—Regional orthopedic surgery, 1950.
Dotter—Angiocardiography, 1951.
Gilfillon—Outline of orthopedic pathology, 1951.
Kamen—Radioactive tissues in biology, 1951.
Krantz & Carr—Pharmacologic principles of medical practice, New edition, 1951.
Le Faru—Bio-bibliography of Edward Jenner, 1951.
Lewis—Electrophoresis in physiology, 1950.
Lewis—How to read better and faster, 1951.
Lyle—Neuro-ophthalmology, 1951.
Maxey—Rosenau's preventive medicine & hygiene, 1951.
Mercer—Orthopedic surgery, 4th ed. 1950.
Penfield and Kristiansen—Epileptic seizure patterns, 1951.
Ritvo—Chest x-ray diagnosis, 1951.
Roth—Tobacco and the cardiovascular system, 1951.
Singer—Chest diseases, 1949.
Smithwich—Surgical measures in hypertension, 1951.
Soffer—Diseases of the endocrine glands, 1951.

TREATMENT OF ADVANCED CANCER OF THE BLADDER

Frederick M. Jacobs, M.D.,
Roanoke, Virginia.

The severe challenge offered by cancer to the operating surgeon evokes two general, but disparate types of response. Study of the literature published on cancer during the past twenty years seems to show that one response is mild, cautious, conservative, strongly influenced by a pervading sense of defeat, or, conversely, permeated by a curious, vain optimism. The alternative reaction, one finds, is characterized by vigorous, aggressive activity, motivated by hope and optimism, which is justifiable and correct, if proved by experience, but which occasionally seems to derive its inspiration from surgical hyper-enthusiasm rather than from careful, searching observation, and equally careful and rational interpretation.

Progressive extension of radical cancer surgery is clearly shown by the more recent literature. It is significant that an increasingly greater number of careful and thoughtful surgeons are finding unmistakable merit in aggressive surgical attack upon malignant disease. Well-documented publications, particularly by Brunschwig, Higgins, Marshall, Pack, and Colston, to mention a few, lend emphatic support to the positive doctrine of radical excision. However, this rapidly developing attitude is by no means universally accepted as an established principle. For example, the temporary palliation conferred by hormonal therapy and transurethral resection upon sufferers of cancer of the prostate has almost eliminated Young's radical perineal operation from the repertoire of American urology. A philosopher may with some reasonableness brand the aggressive surgical attack as fundamentally a crude and primitive tour de force, basically unsound, unjustifiably mutilating, and often not curative. But until such a man can vitalize his critique with something more substantial than pointless, nihilistic implications, he must, at least for the moment, forego his condemnation and accept the limited potency of surgery's pitifully inadequate resources when these are directed to the conquest of cancer. It is a waste of time to fret over this appalling inadequacy. We must use what we have.

Fig. 1. The excised specimen.

Fig. 2. The bladder and rectum opened.

The apparent severity of the challenge of cancer may cruelly deceive even an alert and well-informed observer. The challenge may appear so gentle, so subtle, so innocuous, that the surgeon, unless extremely vigilant, may fail to apprehend the full significance of the thing with which he is dealing. Time passes, and eventually the relentlessly advancing disease manifests its life-destroying identity with

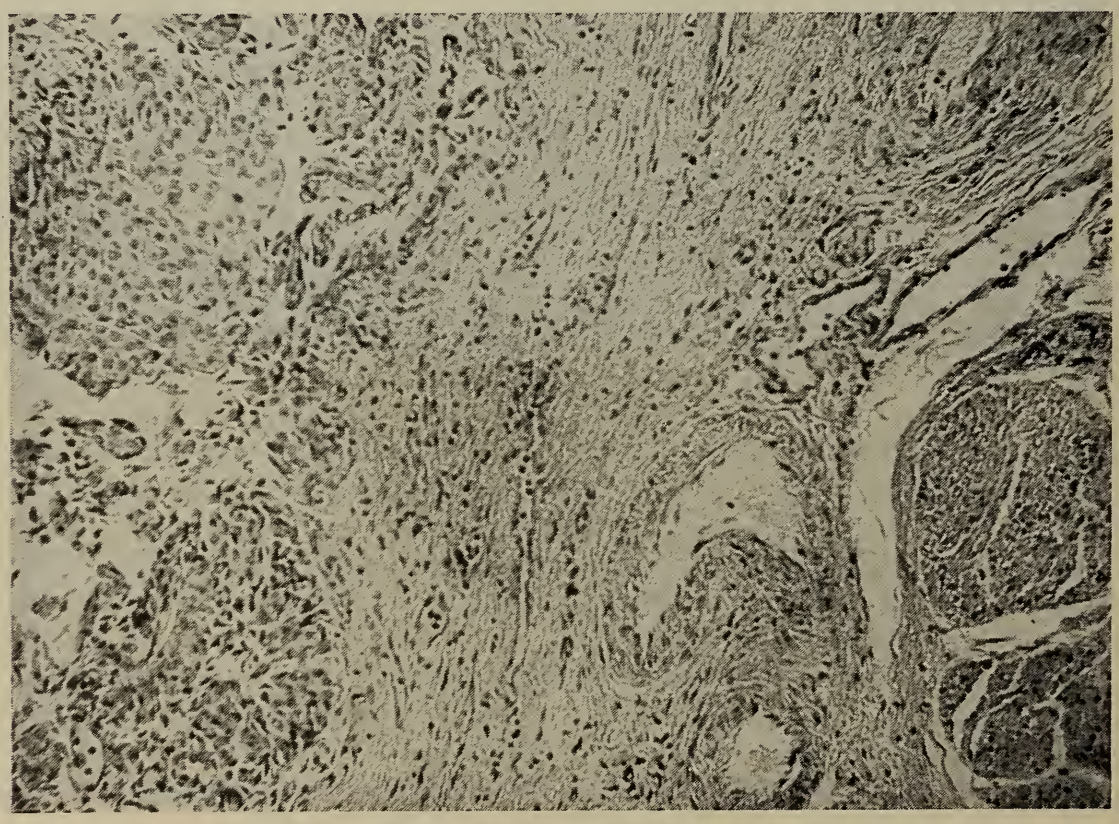

Fig. 3. Microphotograph of bladder lesion. Details in text.

evident clarity. With an unpleasant jolt the deluded victim discovers that all along he has been whistling contentedly in the somber gloom of impending disaster, quite unaware of the mischief being wrought by his implacable enemy. In sharp contrast to the feeble appearance, the severity of the challenge may loom so overwhelmingly potent that it suppresses utterly any effort to launch an effective therapeutic attack, forcing upon the surgeon complete moral surrender with coincident abandonment of the patient to the ravages of his disease.

The alternative course of intelligently applied radical surgical treatment is recommended by many authorities. It is difficult to oppose a logical objection to this choice of procedure, for accumulated experience has shown that in this way only is there a possibility of curing most cancers. Of course, the dangers and limitations of extensive surgery must be thoroughly appreciated and accorded their full significance when assessing the individual case. But it is equally true that recently developed great extensions in the physiological limits of major surgery render reasonable and proper the serious consideration of applying extensive radical surgery to the treatment of most operable cancer.

The case herein reported illustrates in narrative form the clinical application of the two fundamental choices available to the cancer therapist, and, perhaps, it points to a trend.

Case Report

A white male, 47 years old, entered the hospital on April 25, 1949, telling a story of having intermittent, painless hematuria during the preceding seven years. There had been no associated urinary or other symptoms, and his general health had not deteriorated. During the years the hematuria gradually became more frequent and more intense. At length, he consulted a physician in March, 1948, six years after the initial appearance of bloody urine. The physician obtained a transurethal biopsy of a bladder lesion, which was identified as a papillary carcinoma, Grade I. Furthermore, the physician observed that both ureters were partially obstructed. Properly and correctly, therefore, he transplanted both ureters to the skin in order to prevent irretrievable and fatal damage to the kidneys. The patient probably owes his life to this primary operation,

Fig. 4. The cloacal outlet (sigmoid colostomy).

which also made possible the removal of his cancer at a later date.

During the year intervening between the performance of cutaneous ureterostomies and the present admission to the hospital, the tumor was treated five times by transurethral fulguration. Nevertheless, the tumor continued to grow until it filled the bladder.

When seen by us the pertinent findings were confined to the local disease process. There were bilateral iliac cutaneous ureterostomies, which functioned well. Rectal examination revealed a nontender, firm, resilient mass, about the size of a baseball, located above the prostate, and apparently fixed to the ampulla of the rectum. The rectum itself was compressed in front and from both sides, at a level somewhat superior to the main mass, by the same sort of tissue, the uppermost limits of which could not be reached. Proctoscopic examination showed no disease of the rectal mucosa, but be-

Fig. 5. The Rutzen bag.

cause of the small rectal lumen produced by outside compression no instrument could be passed into the sigmoid colon. Cystoscopic examination showed the bladder to be filled with a fungating tumor mass except for a small area near the vesical outlet. Intravenous urography revealed good function but moderate dilatation of both kidneys. Laboratory examination, including kidney function tests, were within normal limits. Metastatic survey was negative.

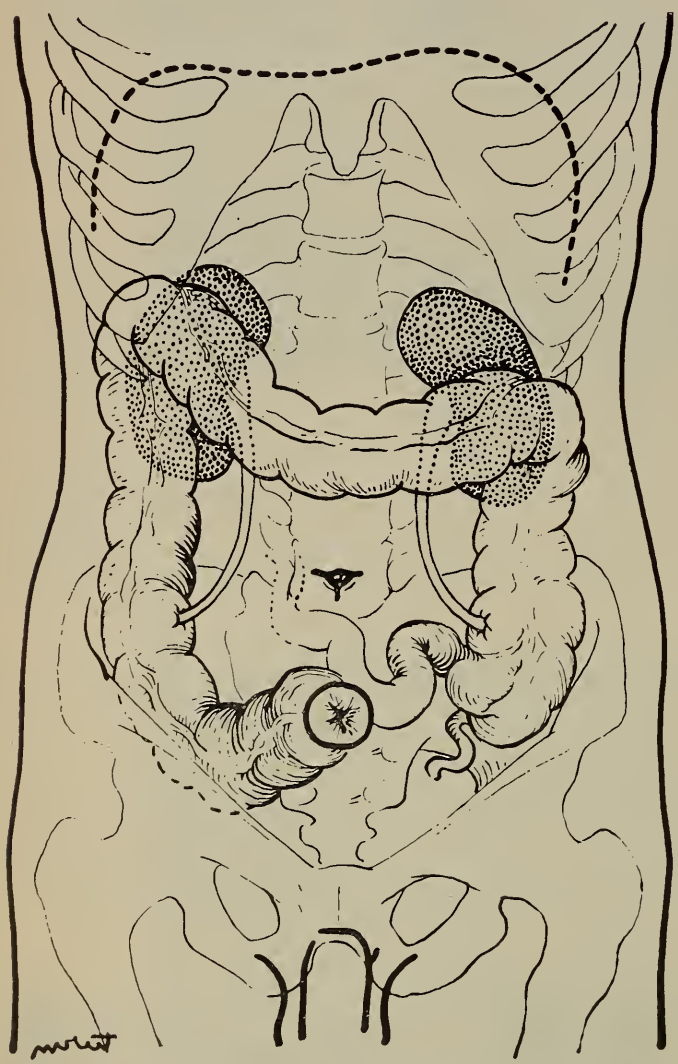

Fig. 6. A shadowgram showing the anatomical relationships between the urinary and intestinal systems after definitive operation.

On May 13th, 18 days after admission, the abdomen was opened through a low midline incision, and after it had been ascertained that there was no apparent involvement of the lymph nodes or liver, an operation was performed, consisting of an end sigmoid colostomy and abdomino-perineal block excision of the lower sigmoid, rectum, anus, bladder, prostate, and seminal vesicles. Near the termination of the abdominal phase of the operation, the patient suddenly went into profound shock. He was resuscitated by rapidly administered bilateral radial intra-arterial transfusions of whole blood, using no special apparatus except for a three-way stop cock. This caused a delay of about 30 minutes, after which the operation was completed without further incident. This unexpected appearance of shock, however, forced us to abandon our original plan of including unilateral uretero-colic anastomosis in this procedure. There was no remaining pelvic peritoneum with which to construct a new pelvic floor, making it necessary to place a rubber sheet, supported by lightly packed gauze, against the intestines for temporary support until supporting granulation tissue could form. The perineal wound was loosely closed around the protruding portion of the rubber sheet, and the

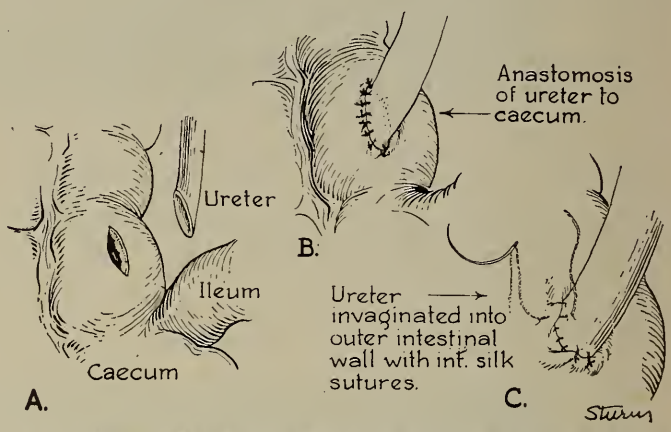

Fig. 7. Method of anastomosis. For clarity of detail artist shows anastomosis on anterior surface of bowel. Actually, anastomosis was performed on medial surface in close proximity to posterior peritoneum.

abdominal wound was closed without drainage. Convalescence was uneventful.

One month later the left ureter was anastomosed end-to-side to the descending colon, utilizing a modified Nesbit mucosa-to-mucosa technique. The abdomen was closed without drainage. After another month the right ureter was anastomosed to the cecum by the same technique. Each operation was carried out transperitoneally, and in neither were noteworthy difficulties encountered. It was observed that each ureter was several times thicker than normal and slightly indurated, but was of good vascularity. After each of these procedures, convalescence was uneventful, the patient was ambulatory on the first postoperative day, and the incisions healed by primary union.

It has now been 12 months since the tumor mass was excised. During this time he has gained 30 pounds,

is normally active, and is in general good health. General and X-ray examinations show no recurrence of the cancer. Non-protein nitrogen has increased to 59 mg. per cent, but he shows no clinical evidence of azotemia. It is quite possible that the wide absorptive surface of the bowel presented to the excreted urine may account for the elevated laboratory figure. He wears a Rutzen bag over the cloacal outlet, and he tolerates this apparatus well.

Abbreviated Pathological Report

Gross: Specimen consists of a bladder, prostate and a segment of large bowel, measuring 38 cms. in length, consisting of rectum and a portion of the sigmoid colon. There is a layer of peri-rectal fat, measuring 3 cms. in thickness. The fundus of the urinary bladder is filled with a friable, cauliflower-like mass, arising from the mucosal surface. There are no palpable tumor nodules on the serosal surface of the bladder and rectovesical wall of the bowel. The bladder and bowel have been previously opened. The baldder wall cuts with increased resistance, revealing a grayish-white surface identified as tumor. The tumor infiltrates the mucosa and muscularis, but does not involve grossly the serosal surface. The prostate appears normal.

Microscopic: A section of the baldder shows a fungating mass of transitional and squamous neoplastic cells along the mucosal surface. There is no infiltration into the submucosa. The muscle wall shows no significant pathological change. A section from the posterior wall of the bladder shows a similar neoplastic process, which infiltrates into the submucosa, but does not involve the muscle layer. The serosal surface of the bladder wall shows no pathological change. One large lymphatic in the submucosa contains similar neoplastic cells.

Diagnosis: Papillary carcinoma of bladder, Grade II.

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1602 Patterson Avenue, S. W.

Serious Virus Infection Transmitted by Dope Addicts.

The transmission of a serious virus inflammation of the liver as a result of the communal use of hypodermic needles by dope addicts was reported in the Sept. 15 *J.A.M.A.*

This additional hazard of dope addiction was reported by Drs. Emanuel Appelbaum and Mennasch Kalkstein, of New York City, after studying the case histories of nine heroin addicts suffering from viral hepatitis, each of whom had received intravenous injections of the drug.

"The hypodermic outfit, known as 'the works,' is never sterilized and is passed around from one addict to another," the doctors stated. "It is obvious that this method lends itself to the transfer of infectious agents from one addict to another.

"Attention is thus directed to another hazard of narcotic addiction, namely the transmission of a virus infection. The public health implications of this extraordinary manner of spreading hepatitis cannot therefore be overemphasized.

"This problem assumes particular importance at this time because of the recent exposure of the widespread existence of diacetylmorphine [heroin] addiction, especially among adolescents."

The report also pointed out that such infections as malaria, tetanus, and bacterial and fungous heart conditions have been reported as transmitted by intravenous drug addicts.

PROCEEDINGS

THE MEDICAL SOCIETY OF VIRGINIA

1951 ANNUAL MEETING

Virginia Beach

October 7, 8, 9, 10, 1951

COUNCIL

The Council of The Medical Society of Virginia was called to order at 3:30 p.m., October 7, 1951, at the Cavalier Hotel, Virginia Beach. Dr. Walter A. Porter offered the invocation.

The following members were present: Dr. C. Lydon Harrell, President; Dr. John T. T. Hundley, President-Elect; Dr. George S. Hurt, 1st Vice-President; Dr. Mack I. Shanholtz, State Health Commissioner; Councilors: Dr. R. B. Bowles, Mathews; Dr. Walter P. Adams, Norfolk; Dr. Guy W. Horsley, Richmond; Dr. Wilkins J. Ozlin, South Hill; Dr. Walter A. Porter, Hillsville; Dr. Frank A. Farmer, Roanoke; Dr. Richard P. Bell, Staunton; Dr. Vincent W. Archer, Charlottesville and Dr. James P. King, Radford. Others present were Dr. K. D. Graves, Roanoke; Dr. Joseph E. Barrett, Richmond; Dr. Harry J. Warthen, Jr., Richmond; and Robert I. Howard, Executive Secretary-Treasurer.

After determining that a quorum was present, Dr. Harrell asked that the minutes of the last meeting be dispensed with and gave a brief report of his activities since the Council meeting in July. In this report Dr. Harrell indicated that he felt that the work of the Virginia Council on Health and Medical Care in the placement of physicians should come back under the direction of the Society.

Dr. Walter A. Porter, Chairman of the Budget Committee, was asked for the report of that committee which he gave as follows:

Budget

EXECUTIVE OFFICE	
Salaries	$24,800.00
Building Maintenance	3,000.00
Telephone and telegrams	1,500.00
Postage	1,000.00
Stationery and supplies	900.00
Office equipment	500.00
Convention expenses	500.00
Councilors' expenses	425.00
Executive assistant to A.M.A.	200.00
Delegates to A.M.A.	2,100.00
President's expense	600.00
Virginia Medical Monthly	16,000.00
Scientific Exhibits Committee	1,600.00
Walter Reed Commission	500.00
Cancer Control Committee	400.00
Maternal Health Committee	30.00
Child Welfare Committee	25.00
National Medical Service Committee	150.00
Affiliated Agencies	60.00
Contingent Fund	500.00
Printing Directory	500.00
Department of Clinical and Medical Education	500.00
Building Repairs	500.00
Travel Expense	2,000.00
Woman's Auxiliary	100.00
Social Security	375.00
Miscellaneous	800.00
SPECIAL APPROPRIATIONS	
Virginia Council on Health and Medical Care	2,000.00
National Society of Medical Research	150.00
PUBLIC RELATIONS	
Conference	1,000.00
Radio and press	500.00
Literature	500.00
Educational Campaign (A.M.A.) program	200.00
	$63,915.00

In discussing the report, Dr. Porter pointed out that there was only one request for an increase in salary and the Budget Committee recommended a $400 increase for Miss Spencer Watkins. Several other notable changes were as follows: Walter Reed Commission had an increase from $75 to $500 for reconditioning the building at Gloucester. There was an increase of $1,000 for the VIRGINIA MEDICAL MONTHLY. Five hundred dollars was appropriated for the printing of a directory. Several cuts in appropriations were noted, but it was pointed out that these cuts would not affect the regular activities of the Medical Society.

In a discussion concerning the American Medical Education Foundation, Dr. Harrell asked that this appropriation be made for the coming year as it was last year. However, Dr. Hundley pointed out that it might be better to encourage the support of that foundation by the individual physicians, instead of subscribing to it for them. It was moved and seconded that the in-coming President be instructed to write Dr. George F. Lull, of The Amerian Medical Association, stating the stand of the Medical Society in this matter.

In regard to the items in the budget concerning the new office building, Dr. Archer moved that a more vigorous effort be made to rent the unused space in the building. The motion was seconded and passed.

Dr. Porter recommended that the budget be approved and presented to the House of Delegates for adoption.

Dr. Harrell then called for the report of the Ethics Com-

mittee. Mr. Howard, Executive Secretary, read the Summary, Conclusions and Recommendations of this Committee's report, as follows:

Summary

Out of the seventeen, there were two persons named who proved to be errors. There were five others who disclaimed ever having received any rebates.

One evaded the direct question but admitted that the practice of accepting "kickbacks" was general practice in the past but was now discontinued.

There were nine who stated that they had received presents in the past, but this practice was discontinued at the time of the A.M.A. expose.

Conclusion

The acceptance of "kickbacks", rebates, and fee-splitting constitutes a gross violation of the Principles of Ethics. There is no evasion of this fact. The nine physicians who admitted frankly that they accepted presents during the years 1942 to 1945, also state that this practice was general among physicians prescribing glasses at that time. These nine physicians, also, through their special society, promise to condemn such practices in the future.

The Ethics Committee has not found that this practice of receiving "kickbacks" exists at the present time in Virginia.

Recommendations

We of the Ethics Committee do not believe that this committee should go further than present the facts as found, but we do respectfully suggest to the Council that at this late date, and on their own admission that "kickbacks" had been received, that little would be accomplished by expulsion as provided by the Constitution and By-Laws of The Medical Society of Virginia.

It is the unanimous opinion of the Ethics Committee that the practice of receiving "kickbacks", rebates, and fee-splitting should be censured, for it is beyond the comprehension of the committee that otherwise correct physicians could forget the simple principle of right and wrong.

Respectfully submitted,
The Ethics Committee
M. H. Harris, *Chairman*
K. D. Graves
H. H. Hurt

Dr. Archer moved that the report of the Ethics Committee be accepted, approved and referred to the House of Delegates. As an amendment to this motion, it was suggested that any possible identification of the physicians involved should be omitted. This motion was seconded and passed.

In regard to the date and place of the next annual meeting, Dr. Archer suggested that Washington, D. C., be considered for some future date. It was thought that then the physicians in Northern Virginia might have a chance to invite the Society.

The Editor not being present, Dr. Harrell asked Dr. Hundley to present the report of the Publications Committee in regard to the clinico-pathological reports in the Virginia Medical Monthly. Dr. Hundley indicated that the Committee felt that these reports were too long, too many cuts are used and the reports do not seem to be well written. There seemed to be a question as to who should pay for these cuts, and also the Committee wondered if the cuts were justified. Dr. Hundley suggested that the problem be referred to the Department of Clinical and Medical Education. He also suggested that that Department might decide as to whether or not these reports are an activity they wish to continue. This suggestion was put in the form of a motion, duly seconded and passed.

Dr. Adams asked to read a resolution from the Norfolk County Medical Society, in regard to the feasibility of the Virginia Medical Monthly printing resolutions in connection with the death of a member. Dr. Hundley moved that the Publication Committee be requested to set up rules for the publication of resolutions on deceased members, indicating the maximum lines, and the deadline for printing. This motion was seconded and passed.

In further regard to the Publication Committee, Dr. Horsley presented the request of Dr. Ennion Williams that he not be re-appointed as Assistant-Editor of the Virginia Medical Monthly. Dr. Hundley moved that the resignation be accepted with extreme regret. This motion was seconded and passed. In connection with Dr. Williams' resignation, Dr. Archer moved that a committee of three members from Richmond be appointed to name a successor to Dr. Williams. This committee would report to Council. Dr. Archer's motion was seconded and passed.

Dr. Joseph E. Barrett, State Commissioner of Mental Hygiene and Hospitals, also a member of the Executive Committee of the Virginia Neuro-Psychiatric Society, was presented to the Council by Dr. Harrell. Dr. Barrett, at the request of the Virginia Neuro-Psychiatric Society, presented a problem of that society which concerns the Medical Practice Act of Virginia, and involves a clinical psychologist. After a brief history of the facts regarding the particular case, Dr. Barrett requested that The Medical Society of Virginia bring to the attention of the State Board of Medical Examiners the fact that in the opinion of the Virginia Neuro-Psychiatric Society, one person is violating the Medical Practice Act, and it is hoped that the State Board will investigate.

Dr. Horsley moved that the Council might bring this matter to the attention of the State Board with the request that the Board take whatever action possible. This motion was seconded and passed.

At the suggestion of Dr. Archer, Mr. Howard read a letter from Dr. John B. Leary, Arlington, which recommended the collection of local, state and national dues simultaneously, at the local level. This letter was turned over to the incoming President and Executive Committee to be studied.

The Council instructed the Secretary to send a telegram to Dr. M. Pierce Rucker, Editor, expressing regret that he was unable to attend this annual meeting.

Dr. Harry J. Warthen, Jr., then presented the final report of the year of the House Committee and the Council instructed him to present this report to the House of Delegates at its first session.

Dr. Adams moved that the Council stand greatly indebted to the House Committee. This motion was seconded and passed.

In regard to the appropriation of health funds to the Department of Welfare, Dr. Harrell indicated that he

would like to see Council go on record as favoring the change of these funds to the Department of Health. Although Dr. Mack Shanholtz, Commissioner of Health, was asked his opinion of such action, he indicated that he was not yet sufficiently familiar with the problem to make a statement. The Council voted to approve the change of these funds to the Department of Health and referred the matter to the House of Delegates.

Dr. Harrell also suggested that the Council might recommend that the Virginia Hospital Service Association include the fees of Anesthesiologists in its contracts. This matter was referred to the Medical Service Committee.

Believing that the Council might better know who was capable of making a good Speaker of the House of Delegates, Dr. Farmer moved that the Council elect this Speaker at the first meeting of the Council after the annual meeting. This motion was seconded and passed.

It was explained that there seemed to be some need of a folder, representing the different activities of The Medical Society of Virginia to be sent out along with invitations to join the State Society, and Council was asked for advice in this regard. Dr. Archer moved that these matters be left to the Executive Secretary and to the Executive Committee of Council. Dr. Adams thought perhaps the Chairman of the Membership Committee might also be on this committee. Dr. Archer so moved. The motion was seconded and passed.

Another question arising from the Executive Office pertained to an interpretation of the Constitution and By-Laws. There seems to be some confusion as to whether or not the By-Laws, Article V, Section 2, means delegates to The Medical Society of Virginia should be based on the number of members of a local society, or whether they should be based on the number of members of The Medical Society of Virginia who are members of a local society. It was the sense of Council that the determination of the number of delegates from a local society should be based on the number of members of The Medical Society of Virginia.

The question was also asked as to who should be allowed to use the Society building. Dr. Horsley moved that the meetings in the new building be limited to component societies, the Woman's Auxiliary, and societies related to medicine. This motion was seconded and passed.

DR. K. D. GRAVES, Secretary of the State Board of Medical Examiners, was then given the opportunity to present a problem concerning the State Medical Practice Act. He indicated that the law should be studied and some changes made. He also suggested that this matter be studied and considered by the Council of The Society, and that they refer it to the Legislative Committee, perhaps getting the opinion of the Society's Attorney, and conferring with the Committee of the Legislature of the State Board of Medical Examiners. Dr. Horsley, past president of the Board of Examiners, agreed with Dr. Graves that the law should be studied, and moved that the Legislative Committees of the Medical Society and the Board of Medical Examiners, together with the Attorney for the Medical Society, confer on the matter and report back to Council. This motion was seconded and passed.

As there was no further business, Dr. Harrell declared the meeting adjourned.

HOUSE OF DELEGATES—1951

First Session

(Although verbatim minutes, insofar as the court reporter could get them, are in our records this condensation is offered with the hope that the membership can know of the salient topics discussed at our House of Delegates meeting in October.)

The House of Delegates of The Medical Society of Virginia met in the Ballroom of the Cavalier Hotel, Virginia Beach, Virginia, October 7, 1951, and was called to order at 8:05 p.m., by Dr. C. Lydon Harrell, President of the Society.

Dr. Harrell opened the session by introducing Dr. Walter B. Martin, Norfolk, Member of the Board of Trustees of the American Medical Association.

Dr. Martin then introduced Dr. Louis Bauer, of New York, Secretary-Treasurer of the World Medical Association, and President-Elect of the American Medical Association.

Dr. Bauer described the World Medical Association and gave a report of its activities and accomplishments of the past four years. He emphasized that the language of medicine is universal and that physicians of all nations think alike. The need of such an organization was stressed, and it was pointed out that with the progress of transportation facilities, the medical profession no longer can build a wall about itself.

Dr. Harrell next asked if a quorum was present in the House of Delegates, and Dr. Ira Hancock, Chairman of the Credentials Committee, reported in the affirmative.

After introducing Mr. Robert I. Howard, the new Executive Secretary-Treasurer, Dr. Harrell presented Dr. Walter Adams, of Norfolk, Chairman of the Local Committee on Arrangements. Dr. Adams stated that he felt a certain proportion of the exhibitors should have accommodations in the Convention Hotel. He also urged the component societies to elect their delegates in the first meeting following the convention in order that they might secure rooms in the 1952 convention hotel.

Dr. Harrell introduced the Speaker of the House of Delegates, Dr. W. C. Caudill, Pearisburg, commenting that this marked the first time such a procedure had been followed.

The minutes of the 1950 meeting were then approved and passed without discussion.

Dr. Harrell then gave the following report on his tenure of office:

I have held four Council Meetings since the close of the last Annual Meeting: October 11, 1950, January 18, April 26 and July 19, 1951.

Mr. Henry Johnson and I attended a Public Relations Meeting in November, 1950, at White Sulphur, West Vir-

ginia, conducted by Dr. Joseph Lawrence of the A.M.A. office in Washington, D. C.

In January we sent Mr. Robert Howard to the Middle Atlantic Regional Conference in Philadelphia as Mr. Johnson and I were both busy in Richmond.

In January I attended the Annual Meeting of the Virginia Council on Health and Medical Care; and two Executive Committee meetings.

I attended two meetings of the Advisory Committee to Civilian Defense.

I delivered three prepared messages: In Roanoke, I spoke on Post-Graduate Education at Dr. Gill's Spring Congress; another in Roanoke before the Society for Crippled Children and Adults, where I discussed the advisability of the different agencies getting together and trying to avoid duplication and overlapping, and more efficiency at less expense.

I was invited to address the Virginia Chamber of Commerce in April. This was filled by President-Elect Dr. John T. T. Hundley at that meeting in Roanoke.

I addressed the Norfolk Medical Society (Colored) and the Frontiers Club (Colored). I addressed the Mid-Tidewater Medical Association at West Point, and the Fourth District Medical Society at Lawrenceville.

The Society purchased a new home last December and had it renovated before moving in on April 1, 1951.

Mr. Robert Howard had been with us a year serving as Mr. Johnson's assistant when he was called back into the service in March. Mr. Richard Nash was employed to fill his place. Soon after this, Mr. Johnson became quite ill and passed away in May. This meant an added burden on the office force and your President. Mr. Richard Nash was placed in charge until other arrangements could be made. Following Mr. Johnson's death, your President received twelve applications for the position. I felt this to be too much of a responsibility for me to solve alone. I appointed a committee of four to review all applications and recommendations; and to make a report. Mr. Howard was nominated and duly elected by a special meeting of the Council in July. He was released from the Air Corps, October 3, 1951 and took over his duties October 5, 1951.

A survey was made during the Summer to ascertain the number of physicians in the State who are qualified to join the State Society but were not members. The records show that 48 physicians, by special invitation have been added to the roll since September 1, 1951.

Taken from the reports of 42 component medical societies, there appears to be approximately 2,629 physicians in Virginia who are members of component societies of The Medical Society of Virginia. In checking these reports with our records, it seems that of the 2,629 physicians who are affiliated with local societies, 2,110 are Members of The Medical Society of Virginia. The difference between these two figures is 519—which would seem to indicate that 519 physicians are eligible for membership in the State Society. *However,* it must be pointed out that of the 519 physicians, many are inactive, some are only associate members of local societies and some are former members of the State Society but have either resigned or been dropped for non-payment of dues. Thirty-eight are former members who have resigned, and 49 have been dropped, indicating that *87* of the 519 *have been* members of the State Society. Since September 1, 299 of those members of local societies who are not members of the State Society have been invited to join the State Society. To date, October 6, 48 have replied to our invitations with applications for membership.

Although this figure will not appear on this year's records, the total new members for this year seems to be 174. (One hundred and twenty-eight reported in September issue of the MONTHLY.)

This information, and the invitations extended, were made possible only through the cooperation of the Secretaries of the component societies. It might be noted that only four societies have not turned in their lists.

It is important also to note that *these figures apply only to members of component societies.* They do not include members who are no longer listed with a component society but retain their membership in the state society.

The Speaker next recognized Dr. Walter A. Porter, who reported on the financial condition of the Society and presented the proposed budget for 1952 as recommended by the Council (see page 660). The total budget of $63,915.00 was unanimously adopted.

A report of the afternoon's meeting of the Council was made by Mr. Howard, Executive Secretary, in which those items referred to the House of Delegates were read.

The Council approved, and accepted the report of the Ethics Committee with the recommendation that any possible identification of the persons involved be omitted, and that this report be referred to the House of Delegates.

Dr. Joseph E. Barrett, member of the Executive Committee of the Neuro-Psychiatric Society of Virginia, in a report to the Council, stated that in the opinion of that Society, the Medical Practice Act is being violated by one person, and that the Society felt that the Council of The Medical Society of Virginia should bring this matter to the attention of the State Board of Medical Examiners for their investigation. This recommendation was approved and referred to the House of Delegates.

Dr. Harrell moved that the Ethics Committee report be accepted, and the motion was seconded.

An amendment was moved by Dr. Walter Martin to the effect that "any future violation of our Code of Ethics in reference to kickbacks of any form be reported to the Committee and there be expulsion from the local society and The Medical Society of Virginia would follow." Dr. Harrell accepted the amendment and his motion was adopted.

Dr. Barrett's report was then voted upon and accepted.

The Speaker next recognized Dr. James P. King, Chairman of the Reference Committee, who presented the following report:

President Harrell has appointed this committee to review the work of certain special groups during the year, and, at this time to focus attention upon some of the recommendations or findings of those groups. In carrying out his instructions, no attempt will be made to digest or even to comment upon the extensive activities undertaken by all special and standing committees during the year; nor to rate any report as superior to another.

The work of the Society has been seriously hampered by the untimely loss of Executive-Secretary Henry S. Johnson and of State Health Commissioner L. J. Roper. Their losses have been reflected particularly in the fields of public relations, and in the work of the executive office and the Civil Defense Advisory Health Service, of which latter organization Dr. Roper was chairman. Also, our main office has suffered the inconvenience and disruption of being moved from one section of Richmond to another.

The Judicial Committee has made several recommendations for organic improvement of the Society through changes in its constitution and by-laws. These changes should receive the careful consideration of this body.

Our Medical Service Committee has been quite active during the year under the chairmanship of Dr. John O. Boyd, Jr. The full report of this committee should be

read with a view to devising ways and means of expediting its recommendations, particularly those regarding the extension of voluntary health insurance plans.

There are several valuable suggestions contained in the report of the committee appointed to confer with the State Board of Nurse Examiners. Those charged with recruitment and training of nurses will be interested in this Committee's comments. To quote one paragraph of its report: "It was pointed out by the State Board of Nurse Examiners that in many hospitals the relationship between the physician and the nurse is quite poor and that this poor relationship is one reason that graduate nurses prefer other branches of the nursing profession rather than to remain in hospitals. In order to improve this condition, physicians are urged to be more tolerant of the hospital nurses. It was also agreed both by this Committee and the nurses present, that classroom teaching by members of the medical profession for the nurses would be of great benefit to both the nurse and the physician." In the light of this quotation, it seems pertinent to ask, What can we do to promote better feeling between the physician and the hospital graduate nurse?

The Committee on Conservation of Sight and the Prevention of Blindness has reported on the possibility of having teachers undertake to chart-test the vision of all school children, through cooperation with the Lions Club of Virginia. This Committee also recommends that extended instruction be afforded general practitioners on a yearly basis for the purpose of giving them up-to-date knowledge of ophthalmology.

According to the view of the Committee on Tuberculosis in Institutions, tubercular patients in state hospitals are receiving proper isolation and bed-rest, but they are not being provided facilities for collapse and drug therapies. The Committee believes that part-time consultants should be employed to serve the state hospitals in the absence of full-time specialists. It has volunteered its services to the Department of Mental Hygiene for the purpose of locating such part-time workers. The Committee also recommends that chest x-rays be made of all persons admitted to jails and road camps, as is now the routine procedure at the State Penitentiary and the State Farm.

A comprehensive survey of the state's local facilities for treatment of personality disorders has been made by the Committee on Mental Hygiene. This work should serve a useful purpose, if periodically revised, for the evaluation of the psychiatric care of patients in Virginia. One member of our committee remarked, after reading the report, that he was not aware that so much was being done in the psychiatric field in this state.

A six-point preliminary report of the Cerebral Palsy Committee indicates that the work of the committee should be continued with a view to affecting the measures suggested for the care of these patients in specialized local clinics.

Dr. H. A. Tabb's report of the Walter Reed Shrine in Gloucester does not speak well for the Society. It is suggested that the Council duly consider Dr. Tabb's recommendations.

Members of this Society should read and carefully study the report of the Emergency Medical Service Committee as written by its able chairman, Dr. John Powell Williams. The Council of this Society has long been interested in the emergency care of the public in event of atomic disaster. This report should shake the complacency of the most conservative of the persons among us. It is the thinking of this Committee that preparation for survival under atomic attack should become the immediate concern of each member of this Society.

We wish to commend the work of our special and standing committees during this past year. A great deal of time and effort has been expended by members of these committees in discharging their assignments; their reports should be given thoughtful reading by every member of the Society.

It is the consensus of this Committee that our executive secretary should follow-up the recommendations and conclusions contained in the various reports and make sure periodically that the conclusions of the special groups are being translated into action.

Respectfully submitted,
FRANK A. FARMER
GEORGE S. HURT
JAMES P. KING, *Chairman*

Dr. King moved that the various committee reports as published in the VIRGINIA MEDICAL MONTHLY, with the exception of the Judicial Committee report (September MONTHLY, page 492), be adopted, received and filed. This motion was seconded and opened for discussion.

Dr. Walter Martin questioned whether or not the Reference Committee was in keeping with the proposals of the Reorganization Committee. After considerable discussion, it was pointed out that the present Reference Committee was the first step toward the implementation of the procedure whereby several Reference Committees would be appointed to consider committee reports, resolutions, and other matters to be brought before the House of Delegates and whereby any member of the Society could appear before a committee to discuss a particular subject.

Dr. John O. Boyd, Jr., Chairman, Medical Service Committee, was recognized and offered the following supplementary report for his committee: "Mr. Speaker, Gentlemen: The Medical Service Committee would like to submit as a supplement to its report the following suggestion. That is a concrete step in achieving greater coverage of hospital and medical care for the citizens of the state and in supplying the members of The Medical Society of Virginia with information that has been requested by many of you that we publish and make available to you a suitable modification of the brochure which has been worked up in the Norfolk County Medical Society, largely through the efforts of Dr. Lowenberg which is in the nature of a formal pamphlet which you may send to your patients in bills or which you could hand to them at their request, pointing out the need for and the value of such insurance coverage.

"Second, that we publish for your information and for your use as you see fit, a list of desirable things which you could recommend to your patients. The details of these two brochures would have to be left to your committee and would be submitted to the Council before publication.

"The intent of the Committee is that if you take positive action on this recommendation that they will be available at your request for distribution as you see fit and that they not comprise in any sense anything that is mandatory that requires obligation of either you or your patient."

A brief supplemental report for the Tuberculosis Committee was given by Dr. C. Lydon Harrell, suggesting that copies of the report as published in the minutes be sent the Governor, the State Health Commissioner, and Dr. Joseph E. Barrett, Commissioner of Mental Hygiene and Hospitals.

Dr. R. B. Bowles, at the request of Dr. Lee Sutton, Chairman, presented the supplementary report of the Polio Committee:

THE HOUSE OF DELEGATES:

The American Medical Association at the suggestion of the National Foundation for Infantile Paralysis has requested that the State Medical Societies recommend to their local medical societies of their state the following proposal:

"That in those counties where acceptable treatment facilities are already available or may be developed in the future, the county medical society recommend to the Chapter of the National Foundation for Infantile Paralysis a panel of physicians equal to double the number of committee members to be appointed, who would be willing to serve as medical advisors to the Chapter in its medical care program. The Chapter would then name a Medical Advisory Committee from this panel which would serve the Chapter and represent the medical profession.

"It is the function of the Medical Advisory Committee to:

1. Establish within the treatment center procedures which will be uniformly acceptable to the attending staff for the admission, treatment and discharge of polio patients.
2. Recommend to the Chapter standards of service for which monies may be spent by the Chapter in the event the poliomyelitis patient or his parents require financial assistance from the Chapter for the payment of services.
3. Recommend to the Chapter equipment which is needed by the treatment center for the care of polio patients.
4. Establish a schedule for the payment of medical fees if the physicians in the community are accepting payment from a voluntary public agency for professional services.
5. Serve as a grievance committee where there are disagreements between the Chapter and an individual physician regarding professional disputes over fees or other practices which may not conform to the established procedures for treatment as referred to above.

"The committee on poliomyelitis agrees to the proposals as submitted and recommends that The Medical Society of Virginia advise the county medical societies of this action so that they may cooperate with the local chapters of the Foundation."

Respectfully submitted,
COMMITTEE ON POLIOMYELITIS.

The House of Delegates then voted to adopt the report of Dr. King's Committee which included the various supplementary reports.

Dr. J. Morrison Hutcheson, Chairman of the Judicial Committee, briefly explained the report of his committee, pointing out that the Program and Publication Committee was being divided into two separate committees. He also stated that another committee, known as the Finance Committee, would be added to the list of Standing Committees. It was moved, seconded and passed that this report be adopted.

The Speaker next recognized Dr. J. M. Emmett, Chairman of the Public Relations Committee, who offered the following resolution:

HENRY S. JOHNSON

It was with great sorrow that we learned of the passing of Mr. Henry Johnson, Executive Secretary for The Medical Society of Virginia, on May 23, 1951. Mr. Johnson had served The Medical Society of Virginia primarily as Director of Public Relations from March 15, 1946 to January 1, 1951. He was appointed Executive Secretary and Director of Public Relations January 1, 1950. Mr. Johnson served The Medical Society of Virginia in an admirable manner, and he fulfilled splendidly the requirements of both his offices. His presence will be tremendously missed in the future councils of our Society.

BE IT RESOLVED that the Officers and membership of The Medical Society of Virginia express our true distress at the loss of Mr. Henry Johnson. We are grateful for the splendid service which he gave to our professional efforts, and we are thankful to our Heavenly Father that he was allowed to work with our organization.

BE IT FURTHER RESOLVED that a copy of these resolutions be sent to Mrs. Johnson and that they be inscribed in the proper record of the affairs of The Medical Society of Virginia.

E. E. HADDOCK
JOHN T. T. HUNDLEY
FLETCHER J. WRIGHT, JR.
J. M. EMMETT, *Chairman*

It was moved that the resolution be adopted, and it was unanimously carried with a rising vote.

Dr. Guy W. Horsley, of Richmond, was also recognized to offer the following resolution:

IN MEMORIAM

DR. LONSDALE J. ROPER
1886-1951

WHEREAS, God in His Infinite Wisdom, has removed from our midst Dr. L. J. Roper at the very acme of his usefulness, it is fitting that we record the sense of our great loss in his untimely death.

Dr. Roper was born in New York, March 28, 1886, but lived in Virginia all but the first six months of his life. He attended William and Mary College in 1903 and graduated in medicine at the Medical College of Virginia in 1907. After an internship at the King's Daughters Hospital in Portsmouth, he entered private practice in that city. He took an active interest in civic affairs and was largely instrumental in the founding of the Fresh Air Farm that was operated by the Portsmouth Kiwanians. He was an honorary member of the Portsmouth club and at one time its president. In 1936 he was governor of the Capital District of Kiwanis. He was also a thirty-second degree Mason, and a member of the Scottish Rite and the Shriner's Khedive Temple in Norfolk. In World War I, he was a major in the Medical Corps.

Dr. Roper was Portsmouth's first full-time health officer, holding that position from 1919 to 1937, when he became Director, Venereal Disease Control, of the State Department of Health (1937-8) and the Director Local Health Services (1938-46). In 1946 he was appointed Health Commissioner, succeeding Dr. I. C. Riggin, who resigned. Dr. Roper made an outstanding record as Commissioner.

By reason of his position as Commissioner of Health, he occupied a prominent place in The Medical Society of Virginia. He was ex-officio a member of the Council and was on about one-half of the standing committees. He took these obligations seriously and had a well-nigh perfect attendance. His integrity and kindliness endeared him to the fellows of the Society. He was a wise Councillor and The Medical Society of Virginia will greatly miss his presence and advice.

BE IT THEREFORE RESOLVED that this report be spread upon the minutes of the Council and a copy be sent to his widow, with our sympathy.

GUY W. HORSLEY
WILKINS J. OZLIN
M. PIERCE RUCKER, *Chairman*

The motion to adopt this resolution was carried unanimously by a rising vote.

Dr. Caudill then recognized the delegates to special conventions: Dr. Clayton W. Eley of Norfolk, Delegate to the Medical Society of the State of North Carolina; Dr. Southgate Leigh, Jr., and Dr. Walter P. Adams, of Norfolk, delegates to the Virginia Pharmaceutical Association.

The Speaker also at this time introduced the following visiting delegates to this medical convention: Dr. P. G. Fox, delegate from the Medical Society of the State of North Carolina; Dr. John Payne of Sunbury, North Carolina; Dr. R. F. Simmons, Norfolk, delegate from the Virginia State Dental Association; Mr. W. C. Harrell, Virginia Beach, and Mr. N. Pierce Ross, Petersburg, delegates from the Virginia Pharmaceutical Association; and Miss Hazel Knibb, delegate from the Graduate Nurses' Association of Virginia.

Dr. Mack I. Shanholtz, the new State Commissioner of Health, was also introduced at this time.

Since the report of the delegates to A.M.A. was not published in the VIRGINIA MEDICAL MONTHLY prior to the annual meeting, it was moved and seconded that the report be published in the November issue of the MONTHLY.

The Speaker then announced the Chairmen from each Congressional District for the purpose of naming a Nominating Committee and also to make nominations for Councilors from the 1st, 3rd, 5th, 7th and 9th Districts.

Dr. J. D. Hagood was called on for the report of the Legislative Committee. After reading the resolution introduced at the 1950 annual meeting, Dr. Hagood pointed out that it was the feeling of his Committee that it would be unwise to disturb the Medical Practice Act as it exists in this state at this time. Dr. Hagood further stated that in the opinion of many outstanding attorneys, including the attorney for The Medical Society of Virginia, this state possesses the best Medical Practice Act in the country, and it should be given a chance to prove itself.

A question was raised by Dr. Walter Martin concerning the effectiveness of the Basic Science Law. Dr. C. L. Riley, President of the Virginia Board of Medical Examiners, in answer to Dr. Martin stated ". . . . we make an honest effort to carry out the law as it is written." He also brought out the fact that the Chiropractors who have not passed the basic science examination are not practicing in Virginia.

It was then moved and seconded that Dr. Hagood's report be adopted, and the motion carried.

Under the item of new business, the Speaker recognized Dr. Hundley who introduced a resolution involving a change in the By-Laws, as follows:

Last year there was adopted a change in the by-laws, which made the terms of office of members of the Public Relations Committee run for six years, one to be appointed each year.

It is felt that the term of office should be for only three years, and two to be appointed annually, and it is hereby moved that the by-laws be so amended.

The Committee on Medical Service is one of the most important standing committees, having jurisdiction over a number of the very important functions of the Society. It is essential that the membership of that committee include members who are interested in the various fields of activity covered by the committee, and that is not always possible when the members must, by provision of the by-laws, be selected so as to represent each Congressional district.

Therefore it is moved that the by-laws be amended as follows—by changing Article IX of the by-laws, paragraph three, to eliminate the phrase "one from each Congressional district".

The resolution was tabled, according to the By-Laws, and labeled for consideration at the next session of the House of Delegates.

The Speaker then recognized Dr. J. Morrison Hutcheson who made the following motion: "You may recall that some three years ago, a special committee was appointed in this Society to confer with the members of the Old Dominion Medical Society. That is a colored medical society. That committee reported that 'white' be dropped from the Constitution. The committee was continued the following year. Dr. Archer was Chairman of the Committee, and he made a similar proposal which received the majority vote of the House, but not a two-thirds majority which is necessary to change the Constitution.

"Now it is certain that a good many members of the Society are still interested in seeing what is being done about that problem that is with us.

"I move that the constituent society, the component societies of The Medical Society of Virginia be asked during the coming year to give serious consideration to this question and to instruct the delegates that they send here next year whether that Society will or will not consider admitting a colored member and whether they believe the word 'white' should be dropped in our Constitution."

Dr. Hutcheson moved the adoption of that motion, and it was seconded.

Dr. Frank Kearney of Phoebus suggested that the local societies recommend to The Medical Society of Virginia, either pro or con, that the Old Dominion Medical Society be recognized by the American Medical Association on an even basis of The Medical Society of Virginia.

Dr. W. L. Powell of Roanoke moved that Dr. Hutcheson's motion be tabled. Dr. Powell's motion was seconded, but the motion did not pass. In reconsidering Dr. Hutcheson's motion, a vote was taken and the motion passed.

Dr. Harry Warthen, Jr., Chairman of the House Committee, offered the following report, illustrated by lantern slides:

One year ago when The Medical Society of Virginia met in Roanoke, your committee for the purpose of purchasing a headquarters building in Richmond reported that a house at 1105 West Franklin Street was under consideration and would be purchased if the multiple family district in which it was located could be zoned for the proposed business purpose.

The first request was denied, but one month later, on November 1, 1950, the Board of Zoning Appeals reversed itself and granted the request with the stipulation that the exterior of the building be not altered. The purchase of the building followed immediately at a cost of $26,500. Examination of the title, the cost of recording the deed, and the expenses incident to rezoning amounted to $242.50.

The annual taxes on this property are $326.40. The fire insurance totals $32.00 yearly.

The headquarters building is a handsome, well constructed, thirteen-room house which has always been kept in good condition. It's appearance belies its stated age of forty years. The first floor is sufficiently large to permit the joint activities of the Society and the Journal being carried out on one level, a consideration in the decision to leave the Richmond Academy of Medicine building.

The members of the Purchasing Committee who lived in the Richmond area were then asked to serve as a House Committee to adapt the building to its new needs. Fortunately no structural changes above the basement were necessary. The chief changes involved painting, papering, sanding floors, new electric fixtures, reinforcing hand rails, applying asphalt tile to several rooms, installing cabinets, repairing and purchasing draperies, obtaining Venetian blinds and converting the backyard into a parking space with asphalt paving and a new fence.

Furnishings for the reception room and rugs for this room and the hall were purchased. The total cost for this work which was completed in the early Spring was $5,015.57. The original draperies and an Empire mirror over the mantle in the reception room which were purchased with the house amounted to $145.00.

The Women's Auxiliary of The Medical Society of Virginia generously presented the inlaid card table which was greatly needed in the front hall.

The heating plant was antiquated, an old furnace and an automatic stoker furnishing uncertain warmth. In view of this a new oil burning furnace was installed this summer at a total cost of $1,780.00. Storage space for the numerous records of the Society have never been adequate. During the past week a large segment of the basement was partitioned off with suitable shelf space at a cost of $350.00. This completes the major changes in the building and gives the Society an efficient and distinctive headquarters. It is anticipated that the second and a part of the third floor will be rented to suitable tenants.

It is hoped that the members of The Medical Society of Virginia will visit their new headquarters at their first opportunity and avail themselves of the facilities it affords. Visitors will find the parking space in the rear of the building of aid in this crowded section of Richmond.

In concluding this report the House Committee wishes to record the constant assistance of our late Executive-Secretary, Mr. Henry S. Johnson, who aided us in every manner until virtually the day of his untimely death.

Respectfully submitted,

Donald S. Daniels
Fletcher J. Wright, Jr.
Harry J. Warthen, Jr., *Chairman*

Dr. Warthen's report was accepted by the House of Delegates with a vote of thanks.

Dr. W. H. Whitmore of Norfolk, speaking in regard to the practice of cultists, chiropractors and others, offered the following resolution: That the Legislative Committee be instructed to endeavor to have the Medical Practice Act amended to prohibit advertisement on the radio, television, or in the newspapers by any persons licensed under the Medical Practice Act.

This motion was seconded.

The question arose as to whether or not such legislation would prevent certain hospitals advertising in magazines such as the Virginia Medical Monthly. Dr. Whitmore pointed out that the motion stated "newspapers, radio and television". In a counted vote on the motion, it was necessary for the Speaker to cast the deciding vote. The motion was lost.

The Speaker then declared the meeting adjourned until Tuesday at 2 p.m.

HOUSE OF DELEGATES

Second Session

A quorum being present, the House of Delegates of The Medical Society of Virginia reconvened at 2 p.m., Tuesday, October 9, in the Ballroom of the Cavalier Hotel.

The proposed amendments to the By-Laws, having been presented and tabled at the first session, were restated by Dr. John T. T. Hundley for disposition. It was moved and seconded that the suggested amendments be considered separately; this motion carried.

The first proposal concerned the composition of the Public Relations Committee and recommended that the term of office for its members be three years, two to be appointed annually. Adoption was moved, seconded, and passed.

The second proposal recommended the elimination of the requirement that members of the Medical Service Committee be appointed so as to represent each of the nine Congressional Districts. Proponents indicated that this would permit appointments on the basis of interest in the committee functions. Dr. Walter B. Martin opposed the motion for adoption, declaring that it was important that each district know of the discussions and the implemented decisions of the committee. A standing vote on the question revealed that the motion was lost.

A discussion ensued in which the chair ruled that the report of the Judicial Committee as presented at the first session, having been tabled since that time, was now in proper form to be voted upon as required by the amendatory section of the By-Laws. Dr. John T. T. Hundley moved the adoption of the report; it was seconded and passed.

Election of delegates to the American Medical Association was the next order of business. It was pointed out that the terms of Dr. H. B. Mulholland, Charlottesville, and Dr. J. M. Emmett, Clifton Forge, were expiring. The Speaker read the section of the By-Laws pertaining to the election of A.M.A. delegates.

The following nominations were made: Dr. George A. Duncan, Norfolk; Dr. John O. Boyd, Jr., Roanoke; Dr. Vincent W. Archer, Charlottesville; Dr. Kinloch Nelson, Richmond; Dr. Malcolm H. Harris, West Point; and Dr. Guy R. Fisher, Staunton.

In answer to a question by Dr. W. C. Salley of Norfolk, the Speaker stated that a ballot casting a vote for more than four of the nominees would thereby be rendered void. By way of explanation it was announced that the two nominees receiving the highest number of votes would be declared delegates to the A.M.A., and the next two in order would serve as alternates. It was moved, seconded and passed that the nominations be closed.

The Speaker announced the following results of the ballot: Dr. Vincent W. Archer, 57 votes; Dr. Malcolm H. Harris, 54 votes; Dr. Kinloch Nelson, 52 votes; and Dr.

John O. Boyd, Jr., 49 votes. On the basis of these results, Dr. Archer and Dr. Harris were declared delegates; Dr. Nelson and Dr. Boyd were designated as their respective alternates.

While the above tabulation was being made, the Speaker recognized Dr. C. L. Harrell, President, who explained that a Councilor has a vote in the House of Delegates whether or not he is also an elected delegate of a component medical society. Also, Dr. Walter B. Martin stated that the number of delegates to the A.M.A. is determined by the number of paid members of the A.M.A. in the state society including those who are exempt from payment of dues. Dr. C. R. Titus, of Bedford, inquired as to the number of members of The Medical Society of Virginia who had paid their A.M.A. dues. Dr. Harrell answered that there were less than fifty per cent.

Having been recognized by the Chair, Dr. Guy R. Fisher, Chairman of the Nominations Committee submitted the following nominations: President-Elect—Dr. James L. Hamner, Mannboro; First Vice-President, Dr. Ira Hancock, Creeds; Second Vice-President, Dr. Walter P. Adams, Norfolk; Third Vice-President, Dr. Mary Elizabeth Johnston, Tazewell; and Executive Secretary-Treasurer and Director of Public Relations, Mr. Robert I. Howard, Richmond.

Dr. Fisher also read the names of the nominees for Councilors of the odd numbered Congressional Districts: First District, Dr. Albert A. Creecy, Newport News; Third District, Dr. Guy W. Horsley, Richmond; Fifth District, Dr. Louis P. Bailey, Nathalie; Seventh District, Dr. Harold W. Miller, Woodstock; and Ninth District, Dr. James P. King, Radford.

Dr. C. L. Outland, Richmond, moved that the nominations be closed. This motion was seconded and passed. The recommendations of the Nominations Committee were then adopted unanimously.

The Speaker called for nominations of the General Practitioner of the year. Dr. Drewry H. Mason, Ridgeway, and Dr. W. C. Caudill, Pearisburg, were suggested by Dr. Ira L. Hancock, President of the Virginia Academy of General Practice. It was moved, seconded and passed that the nominations be closed.

Dr. B. A. Hopkins, of Stuart, spoke briefly recommending Dr. Mason, followed by Dr. E. E. Haddock, of Richmond who spoke in favor of Dr. Caudill.

Substituting for the Speaker, Dr. C. L. Harrell read the results of the ballots and declared that Dr. W. C. Caudill, Speaker of the House of Delegates, had been elected General Practitioner of the year.

The Chair then entertained nominations for the Speaker and Vice-Speaker of the House of Delegates for the ensuing year. Respectively, Dr. W. C. Caudill and Dr. Walter A. Porter were nominated and elected.

A resolution was then presented by Dr. J. Morrison. Hutcheson of Richmond, as follows: "That The Medical Society of Virginia through the House of Delegates in session here today is opposed to any legislation making it compulsory to report diseases or conditions that are not communicable."

It was voted that Dr. Howard Masters, who was not a member of the House of Delegates be given the privilege of the floor. Dr. Masters expressed the view of the psychiatrists as being in accord with Dr. Hutcheson's resolution. Dr. Henry W. Decker and Dr. E. E. Haddock spoke in favor of the resolution which was then approved without opposition.

Recognition was given Dr. Mallory S. Andrews of Norfolk who moved adoption of a resolution which would record the House of Delegates as recommending "full support of the individual members of the World Medical Association." The motion carried.

Reporting for Dr. W. T. Sanger, Dr. George A. Duncan, Norfolk, recalled the conference on crippled children held on September 29, 1951, in Richmond, and mentioned progress in that regard.

On behalf of the Richmond delegates, Dr. Kinloch Nelson invited the Society to meet in that city in 1952. It was so moved, seconded and passed.

In order to clarify the state-wide situation regarding Dr. J. Morrison Hutcheson's motion in reference to the admission of Negro physicians to membership, Dr. Walter P. Adams moved that the President appoint a committee to inform every component medical society pro and con on the question. Dr. John T. T. Hundley spoke in favor of the motion which was duly adopted.

Subsequent to an announcement by Dr. Walter B. Martin as to the present position of the Society concerning A.M.A. dues, a motion was carried *"directing* the state organization to exert every effort between now and the first of the year to stimulate payment of dues in the A.M.A."

A general discussion ensued regarding room reservations at the headquarters hotel in connection with the annual meetings. A motion to refer the matter to the General Assembly of the Society yielded to a substitute motion by Dr. Ira L. Hancock that a "blanket reservation for the officers, councilors, guests and delegates at the next meeting" be made.

Dr. John A. Sims, of Alexandria, offered a resolution that the Legislative Committee be instructed to use their influence to the end that "M.D." be stamped on the license plates of all licensed physicians. The resolution was carried.

Defeated was a motion by Dr. Frank Daniel to the effect "that the Legislative Committee study the question of periodic re-examination of medical licensees for the purpose of determining their fitness to continue in practice."

There being no further order of business, the House of Delegates adjourned.

Council—Post Convention

At a luncheon meeting of the new Council, on October 10, Dr. John T. T. Hundley, President, called the meeting to order and presented each member of Council, introducing the new members as follows: Dr. A. A. Creecy (1st Dis-

trict), Newport News; Dr. Harold W. Miller (7th District), Woodstock; Dr. Ira Hancock (1st Vice-President), Creeds; and Dr. James L. Hamner (President-Elect), Mannboro.

At the first item of new business, Dr. Hundley indicated that the General Practitioners were considering renting space in the Medical Society Building in Richmond, and he wondered if Council wished to discuss the matter. Dr. Adams suggested that the President be empowered to appoint a committee to act in this regard. Dr. Archer thought the House Committee might be given the power to act. It was moved and seconded that the House Committee be given the power to act in regard to the rental of the space available. This motion was passed.

In a discussion concerning the date and headquarters hotel of the next annual meeting, Dr. Archer suggested that a committee of three, the Executive Committee with the President, should study certain available space and what considerations will be given by the different hotels. This Committee should be empowered to act. This suggestion was put in the form of a motion, seconded by Dr. Miller and passed.

In regard to the directive, approved by the House of Delegates, to further stimulate the payment of A.M.A. dues, Dr. King moved that a committee be appointed to work with the Executive Office in that connection. This motion was seconded and passed. Dr. Archer also moved that the Delegates to A.M.A. be instructed to bring up the question at the Interim Session, of A.M.A. collecting its own dues. This motion was seconded and passed.

The question was raised regarding the District Council meetings. Dr. Horsley indicated that he thought the meetings should be continued, however, he wondered about the definite work and tenure of office of the members of the district councils. Dr. Harrell said he would like to see the Councilors work more with their members of the District Council, and Dr. Hamner seemed to think that these District Councils should be re-activated. Dr. King seemed to feel that his District was tired of these meetings. Dr. Hundley suggested that one or two men from the Executive Office might visit with these districts for a discussion of their problems and attempt to revive their interest in the workings of the Society. Dr. Archer thought at least one meeting a year should be set aside for medical organizational meeting. He also suggested for the consideration of Council, the possibility of working the Blue Shield program of the Virginia Hospital Service Association into the scheduled itinerary and program of District Council meetings of The Medical Society of Virginia.

Dr. Adams moved that a copy of Dr. Hundley's opening remarks and projects for the year be mimeographed and mailed to the members of each component society. The implementation of this motion might be left to the President and the Chairman of the Public Relations Committee. The motion was seconded and passed.

Dr. Hundley asked if there was any discussion or suggestions as to the organization in the Executive Office. It seemed to be the sense of Council that any necessary changes might be left to the Executive Committee, Mr. Howard and the office, bringing any suggestions to the attention of Council.

There was a request from the Arlington County Medical Society that recommendations be made in regard to endorsing the American Association of Physicians and Surgeons. It was pointed out by Dr. Hundley that the House of Delegates had already indicated that it did not approve of the endorsement of the Association, and he felt that the Council had no right to interpret the decision of the House of Delegates. However, it was suggested that Dr. Leary, President of the Arlington Society, be advised that Council plans to bring this matter up at the House of Delegates next year.

Dr. Hundley referred to a number of letters received from A.M.A. concerning the recent incident in Roanoke which involved the lack of an emergency call system among the physicians. The following motion was made by Dr. Horsley: that this matter be passed on to the Grievance Committee of the Roanoke Academy of Medicine, with copies of the correspondence going to Dr. Frank Farmer, Councilor of the 6th District. If no satisfactory decision is reached, the matter will then be referred to the State Grievance Committee. This motion was seconded and passed.

There being no further business, the meeting adjourned.

FIFTY YEAR CLUB AWARDS

One of the highlights of the General Session of the Society held in the Panorama Room of the Cavalier on the evening of October 8, was the awarding of certificates to new members of the Fifty Year Club.

The awards were made by Dr. C. Lydon Harrell, President of The Medical Society of Virginia, and the following physicians officially welcomed into this select group:

Dr. Lewis Berlin.
Dr. Birnie Roscoe Caldwell.
Dr. George Lee Fosque.
Dr. William Ward Insley.
Dr. Thomas Allen Kirk.
Dr. Jesse Hughes Mabry.
Dr. Claude D. J. MacDonald.
Dr. Elisha Leavenworth McGill.
Dr. Thomas Whitehead Murrell.
Dr. George Thomas Myers.
Dr. William Oscar Neal.
Dr. Henry Webster Patton.
Dr. Lewis George Richards.
Dr. William Russell Rogers.
Dr. Thomas Henry Valentine.
Dr. Stephen Hurt Watts.
Dr. Samuel Enoch Weymouth.
Dr. Joshua Warren White.
Dr. Rooker John White.
Dr. William Rush Whitman.
Dr. Henry A. Wiseman, Jr.

COMMITTEES

The following Committees have been named to be in charge of the various activities of the Society during the year 1951-1952. Numbers after names in Standing Committees indicate number of years to serve, these having been appointed for a definite term in accordance with the By-Laws.

Standing Committees

PUBLICATION: M. Pierce Rucker, M.D. (3), Richmond, *Chairman;* Wyndham B. Blanton, M.D. (1), Richmond; A. B. Hodges, M.D. (2), Norfolk.

DEPARTMENT OF CLINICAL AND MEDICAL EDUCATION: C. L. Harrell, M.D., Norfolk, *Chairman;* Vernon W. Lippard, M.D., Charlottesville; Kinloch Nelson, M.D., Richmond; Mack I. Shanholtz, M.D., Richmond; Mary E. Johnston, M.D., Tazewell; Joseph W. Chinn, M.D., Tappahannock.

ETHICS: H. H. Hurt, M.D. (2), Lynchburg, *Chairman;* K. D. Graves, M.D. (1), Roanoke; M. H. Harris, M.D. (3) West Point.

GRIEVANCE: W. C. Caudill, M.D. (4), Pearisburg, *Chairman;* C. L. Harrell, M.D. (5), Norfolk; Guy R. Fisher, M.D. (2), Staunton; M. Pierce Rucker, M.D. (3), Richmond; W. L. Powell, M.D. (1), Roanoke.

JUDICIAL: J. Morrison Hutcheson, M.D. (2), Richmond, *Chairman;* Hugh H. Trout, Jr., M.D. (1), Roanoke; Richard P. Bell, Jr., M.D. (3), Staunton.

LEGISLATIVE: J. D. Hagood, M.D. (2), Clover, *Chairman;* W. C. Caudill, M.D. (2), Pearisburg; Charles H. Henderson, M.D. (1) Norton; Dean B. Cole, M.D. (2), Richmond; Carrington Williams, M.D. (3), Richmond; J. Edwin Wood, M.D. (1), Charlottesville; Frank A. Farmer, M.D. (1), Roanoke; M. S. Fitchett, M.D. (2), Norfolk; Walter P. Adams, M.D. (3), Norfolk.

MEDICAL SERVICE: John O. Boyd, Jr., M.D. (2), Roanoke, *Chairman;* Russell V. Buxton, M.D. (1), Newport News; Walter B. Martin, M.D. (1), Norfolk; Harold W. Miller, M.D. (2), Woodstock; William R. Pretlow, M.D. (2), Warrenton; James P. Williams, M.D. (2), Richlands; John G. Graziani, M.D. (3), Farmville; Charles L. Savage, M.D. (3), Waynesboro; Snowden Hall, M.D. (3), Danville.

MEMBERSHIP: W. R. Whitman, Sr., M.D. (2), Roanoke, *Chairman;* J. Franklin Waddill, M.D. (1), Norfolk; George W. Leavell, M.D. (3), Bristol.

PUBLIC RELATIONS: J. P. King, M.D. (3), Radford, *Chairman;* Benjamin W. Rawles, Jr., M.D. (3), Richmond; H. B. Mulholland, M.D. (1), Charlottesville; John B. Leary, M.D. (1) Arlington; John W. Davis, Jr., M.D. (2), Lynchburg; George A. Duncan, M.D. (2), Norfolk.

SCIENTIFIC EXHIBITS AND CLINICS: Eugene Lowenburg, M.D. (2), Norfolk, *Chairman;* Hunter B. Frischkorn, Jr., M.D. (3), Richmond; Vincent W. Archer, M.D. (1), Charlottesville.

PROGRAM: Benjamin W. Rawles, Jr., M.D. (3), Richmond, *Chairman;* Reverdy Jones, M.D. (2), Roanoke; Ira L. Hancock, Jr., M.D. (1), Creeds.

FINANCE: Harry J. Warthen, Jr., M.D. (3), Richmond, *Chairman;* W. A. Porter, M.D. (2), Hillsville; Frank A. Farmer, M.D. (1), Roanoke.

Special Committees

CHILD WELFARE: McLemore Birdsong, M.D., Charlottesville, *Chairman;* Edwin Kendig, M.D., Richmond; Edwin A. Harper, M.D., Lynchburg; John M. Bishop, M.D., Roanoke; C. C. Powel, M.D., Harrisonburg; William E. Chapin, M.D., Richmond; C. B. Hughes, M.D., Wytheville.

ADVISORY TO WOMAN'S AUXILIARY: Fletcher J. Wright, Jr., M.D., Petersburg, *Chairman;* M. S. Andrews, M.D., Norfolk; Don Daniel, M.D., Richmond; J. P. King, M.D., Radford.

MATERNAL HEALTH: Edwin Rucker, M.D., Richmond, *Chairman;* E. S. Groseclose, M.D., Lynchburg; Garrett Dalton, M.D., Roanoke; George S. Hurt, M.D., Roanoke; W. N. Thornton, Jr., M.D., Charlottesville; H. H. Ware, Jr., M.D., Richmond; John R. Kight, M.D., Norfolk; W. L. McMann, M.D., Danville; L. L. Shamburger, M.D., Richmond.

WALTER REED COMMISSION: H. A. Tabb, M.D., Gloucester, *Chairman;* Richard B. Bowles, M.D., Mathews; Clarence P. Jones, Jr., M.D., Newport News.

TO CONFER WITH STATE BOARD OF NURSE EXAMINERS: Russell V. Buxton, M.D., Newport News, *Chairman;* C. Bruce Morton, III, M.D., Charlottesville; John A. Shackelford, M.D., Martinsville; Eugene Lowenburg, M.D., Norfolk; Frank Johns, M.D., Richmond; M. H. Harris, M.D., West Point; James M. Habel, M.D., Suffolk.

VENEREAL DISEASE CONTROL: Harry Pariser, M.D., Norfolk, *Chairman;* W. W. S. Butler, M.D., Roanoke; R. W. Fowlkes, M.D., Richmond; James W. Love, M.D., Alexandria; W. Ross Southward, Jr., M.D., Richmond; Albert A. Creecy, M.D., Newport News.

TUBERCULOSIS: George A. Welchons, M.D., Richmond, *Chairman;* Wilkins J. Ozlin, M.D., South Hill; Everett C. Drash, M.D., Charlottesville; C. L. Harrell, M.D., Norfolk; Carl W. LaFratta, M.D., Richmond.

MENTAL HYGIENE: David C. Wilson, M.D., Charlottesville, *Chairman;* Patrick C. Drewry, Jr., M.D., Richmond; James K. Morrow, M.D., Radford; John R. Saunders, M.D., Richmond; C. T. Wilfong, M.D., Richmond; Joseph R. Blalock, M.D., Marion; Edwin J. Palmer, M.D., Roanoke; Thomas Spessard, M.D., Norfolk; John P. Williams, M.D., Richmond; John A. Sims, M.D., Alexandria; Snowden C. Hall, M.D., Danville; Julian Beckwith, M.D., Clifton Forge; Thomas S. Edwards, M.D., Charlottesville; Thomas H. Anderson, M.D., Lawrenceville; Alexander G. Brown, III, M.D., Richmond; John B. McKee, M.D., Winchester; W. S. Hooten, M.D., Lynchburg; Landon E. Stubbs, Newport News.

CANCER: George Cooper, Jr., M.D., Charlottesville, *Chairman;* Arthur Gathright, M.D., Richmond; E. P. Lehman, M.D., Charlottesville; A. P. Jones, M.D., Roanoke; Joseph W. Houck, M.D., Lynchburg; Mason Romaine, M.D., Petersburg; Herbert Wolff, M.D., Alexandria; Harry J. Warthen, Jr., M.D., Richmond; Martin L. Dreyfuss, M.D., Clifton Forge; Charles H. Peterson, M.D., Roanoke; P. B. Parsons, M.D., Norfolk.

REHABILITATION: Roy M. Hoover, M.D., Roanoke, *Chairman;* Reno Porter, M.D., Richmond; George A. Duncan, M.D., Norfolk; J. R. Blalock, M.D., Marion; Edwin E. Haddock, M.D., Richmond; Leroy Smith, M.D., Richmond; Frank B. Stafford, M.D., Charlottesville; A. L. Carson, Jr., M.D., Richmond; W. E. Dickerson, M.D., Danville; G. S.

Fitz-Hugh, M.D., Charlottesville; Fletcher J. Wright, Jr., M.D., Petersburg.

National Emergency Medical Service: John P. Williams, M.D., Richmond, *Chairman;* Walter P. Adams, M.D., Norfolk; E. C. Drash, M.D., Charlottesville; R. P. Bell, Jr., M.D., Staunton; W. H. Chapman, M.D., Suffolk; C. V. Amole, M.D., Alexandria; J. M. Hurt, M.D., Blackstone; Frank A. Farmer, M.D., Roanoke; Russell V. Buxton, M.D., Newport News; Kinloch Nelson, M.D., Richmond; Henry Bourne, M.D., Danville; Guy Richardson, M.D., Bristol; Mack I. Shanholtz, M.D., Richmond; John T. T. Hundley, M.D., Lynchburg.

Cerebral Palsy: O. Anderson Engh, M.D., Arlington, *Chairman;* John A. Vann, M.D., Norfolk; Walter O. Klingman, M.D., Charlottesville; Louise F. Galvin, M.D., Richmond; Roy M. Hoover, M.D., Roanoke.

Advisory Health Committee: J. Edwin Wood, M.D., Charlottesville, *Chairman;* Paul D. Camp, M.D., Richmond; R. B. Grinnan, M.D., Norfolk; John B. McKee, M.D., Winchester; Julian R. Beckwith, M.D., Clifton Forge; R. Earle Glendy, M.D., Roanoke; J. Franklin Waddill, M.D., Norfolk.

Education Campaign: James P. King, M.D., Radford, *Chairman.*

Executive Committee of Council: Guy W. Horsley, M.D., Richmond, *Chairman;* Vincent W. Archer, M.D., Charlottesville; James M. Hamner, M.D., Mannboro.

Credentials Committee: Edw. E. Haddock, M.D., Richmond, *Chairman;* H. C. Bates, Jr., M.D., Arlington; Brewster A. Hopkins, M.D., Stuart.

IN MEMORIAM

The names of those members of The Medical Society of Virginia who died during the past year were read during a special memorial ceremony at the General Session, October 8. Dr. A. M. Showalter, Chairman of the Membership Committee, read the following names:

Deaths of Members of The Medical Society of Virginia Reported Since October 1950 Meeting

Dr. Bathurst Browne Bagby, Edwardsville, July 6, 1951.
Dr. William Carlisle Barr, Washington, D. C., August 19, 1950.
Dr. Moses Benmosche, New York, September 4, 1951.
Dr. Carroll Graves Bennett, Martinsville, August 10, 1951.
Dr. Eugene K. Bowles, Jordan Mines, May 18, 1951.
Dr. John Garnett Broaddus, Bowling Green, September 19, 1951.
Dr. Hawes Campbell, Jr., Alberta, November 22, 1950.
Dr. William Woodson Cummings, Pulaski, June 6, 1949.
Dr. Gustave Beauregard Dudley, Martinsville, April 7, 1951.
Dr. David A. Dunkley, Roanoke, September 26, 1950.
Dr. Henry Owen Easley, Iron Gate, March 25, 1951.
Dr. Edward Gill Face, Jr., Richmond, March 6, 1951.
Dr. Thomas Flatford Gill, Richmond, November 2, 1950.
Dr. Wycliffe Charles Jackson, Amelia, September 17, 1951.
Dr. William Russell Jones, Richmond, March 20, 1951.
Dr. John Cephas King, Radford, June 24, 1951.
Dr. Louis Xavier Kolipinski, Richmond, March 31, 1951.
Dr. Delbert Lee LeKites, Chincoteague, November 2, 1950.
Dr. Ruth Spottswood Mason-Grigg, Petersburg, January 1, 1951.
Dr. William Thomas McLemore, Courtland, September 29, 1951.
Dr. Stuart Neville Michaux, Richmond, November 11, 1950.
Dr. James Wallace Miller, Pembroke, September 1, 1950.
Dr. William H. F. Miller, Clifton Forge, January 20, 1949.
Dr. Frederick McCulloch Morrison, Lynchburg, July 23, 1951.
Dr. William Bradford Newcomb, Norfolk, August 1, 1951.
Dr. Rufus Luther Phipps, Clintwood, July 12, 1951.
Dr. Julian Tevy Potts, Newport News, January 16, 1951.
Dr. Susan Alexander Price, Williamsburg, November 15, 1950.
Dr. Claude R. Robinson, Max Meadows, September, 1950.
Dr. Herbert Wilson Rogers, Norfolk, May 8, 1951.
Dr. Lonsdale Joseph Roper, Richmond, June 12, 1951.
Dr. Lockburn Burton Scott, Norfolk, May 17, 1951.
Dr. George Abbitt Torrance, Hot Springs, January 11, 1951.
Dr. Marshall Tate Vaden, Buena Vista, August 8, 1951.
Dr. Rowland Haldane Walker, Norfolk, November 27, 1950.
Dr. James Howard Walton, Arlington, August 8, 1951.
Dr. Estridge Peterson White, Odd, April 19, 1951.
Dr. Lawther Jackson Whitehead, Richmond, February 26, 1951.
Dr. Walter S. Whitmore, Staunton, July 31, 1951.

AUDITOR'S REPORT

October 1, 1950—September 30, 1951

Officers and Councilors
The Medical Society of Virginia
Richmond, Virginia
Gentlemen:

We have made an examination of the books of The Medical Society of Virginia, Richmond, Virginia, for the fiscal year ended September 30, 1951, and have prepared therefrom the three accompanying exhibits. With the exception noted in the immediately following paragraph, our examination was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

We did not verify the accounts receivable by direct confirmation with the debtors.

Subject to the exception stated in the preceding paragraph, it is our opinion that the accompanying Balance Sheet, Exhibit "A", and Statement of Income and Expenses, Exhibits "B" and "C", prepared on the cash receipts and disbursements basis, present fairly the financial condition of the Society at September 30, 1951, and the results of its operations for the year then ended in conformity with generally accepted principles of accounting, applied on a basis consistent with that of the preceding year.

Yours very truly,
Mitchell, Wiggins & Smith
By R. E. Wiggins
Certified Public Accountant

Financial Condition

The financial condition of the Society at September 30, 1951, is shown in the Balance Sheet, Exhibit "A", on the accrual basis. A summary thereof is presented below in comparison with the financial condition at September 30, 1951:

ASSETS	9-30-51	9-30-50
Cash	$ 40,901.62	$ 47,039.65
Accounts receivable	2,505.47	2,249.09
Investments—United States Bonds	32,373.00	47,509.94
Fixed assets	43,061.10	8,048.35
TOTAL—ALL FUNDS	$118,841.19	$104,847.03
LIABILITIES, SURPLUS AND FUND BALANCE		
Liabilities:		
Accounts payable	$ 1,686.95	$ 1,593.18
Surplus:		
General Fund	65,278.42	86,044.64
Legislative Committee—Special Fund	8,814.72	9,160.86
Fund Balance:		
Plant Fund	43,061.10	8,048.35
TOTAL—ALL FUNDS	$118,841.19	$104,847.03

Analyses and explanation of the more important balance sheet items follows:

CASH — $40,901.62

All recorded cash receipts were accounted for by deposits in the banks, and disbursements were supported by properly signed and endorsed paid checks. Balances on deposit at September 30, 1951 were confirmed by direct correspondence with the banks as follows:

GENERAL FUND		
First and Merchants National Bank—Checking Account		$25,734.73
First and Merchants National Bank—Savings Account		6,565.67
The Bank of Virginia—Savings Account		7,290.67
Southern Bank and Trust Company—Savings Account		990.33
TOTAL		$40,581.40
LEGISLATIVE COMMITTEE—SPECIAL FUND		
First and Merchants National Bank—Checking Account	$ 197.00	
First and Merchants National Bank—Savings Account	123.22	320.22
TOTAL CASH		$40,901.62

INVESTMENTS — $32,373.00

Investments, consisting of United States Savings Bonds, were verified by inspection of the securities held in the safe deposit box at First and Merchants National Bank, Richmond, Virginia. They are shown in the Balance Sheet at their current redemption value. Details of investments are shown in Schedule 1.

FIXED ASSETS — $43,061.10

Details of the fixed assets carried in the Plant Fund are shown in Schedule 2. No indebtedness against these assets was disclosed by the records.

Operations

The income and expenses of the General and Legislative Committee Funds for the fiscal year ended September 30, 1951 are shown in Exhibits "B" and "C", prepared on the cash receipts and disbursements basis. Summaries of income and expenses in comparison with those of the preceding year are presented by funds as follows:

	FISCAL YEAR ENDED 9-30-51	9-30-50
GENERAL FUND		
Income:		
Membership dues	$43,701.78	$43,499.48
Medical Monthly publication	17,678.97	16,266.13
Commercial exhibits and convention	4,568.54	--------
Other income	816.94	671.18
TOTAL	$66,766.23	$60,436.79
Expenses:		
Executive office	$73,538.00	$37,512.04
Public relations department	14,813.06	20,484.55
TOTAL	$88,351.06	$57,996.59
EXPENDITURES (OVER) UNDER INCOME	($21,584.83)	$ 2,440.20
LEGISLATIVE COMMITTEE—SPECIAL FUND		
Income:		
Interest realized	$ 58.36	$ 73.40
Expenses:		
Legal fees	$ 600.00	$ 1,490.01
EXCESS OF EXPENSES OVER INCOME FOR THE YEAR	$ 541.64	$ 1,416.61

In General

Insurance in force at September 30, 1951 determined from policies on file was as listed below:

Office furniture and fixtures	$ 6,000.00
Building—1105 West Franklin Street, Richmond, Virginia	26,000.00
Walter Reed House, Belroi, Virginia	2,000.00
Stock of books:	
Fire, lightning, windstorm	1,000.00
Sprinkler leakage	1,000.00
Fidelity bonds:	
Executive Secretary-Treasurer	5,000.00
Secretary	5,000.00

Balance Sheet—September 30, 1951
Exhibit "A"
General Fund

CURRENT ASSETS	ASSETS	
Cash:		
In banks—Demand deposits		$40,581.40
Accounts Receivable:		
Due from members—Estimated collectible value—1951 dues—50 @ $25.00	$ 1,250.00	
Advertising—Virginia Medical Monthly	1,255.47	2,505.47
TOTAL CURRENT ASSETS		$43,086.87

INVESTMENTS

United States Savings Bonds—Present value (Schedule 1)	23,878.50
	$66,965.37

LIABILITIES AND SURPLUS

CURRENT LIABILITIES	
Accounts payable:	
Preparation of Medical Journal—September 1951 issue and convention program	$ 1,686.95
SURPLUS	
Unrestricted—Available for appropriation	65,278.42
	$66,965.37

Legislative Committee—Special Fund

CURRENT ASSETS	
Cash in banks—Demand deposits	$ 320.22
INVESTMENTS	
United States Savings Bonds—Present value (Schedule 1)	8,494.50
	$ 8,814.72
SURPLUS	
Restricted—Available for appropriation by Legislative Committee	$ 8,814.72
	$ 8,814.72

PLANT FUND

LAND AND BUILDINGS—at cost (Schedule 2)		$35,061.10
OFFICE FURNITURE AND EQUIPMENT (Schedule 2)		
At cost	$ 951.65	
Estimated insurable value	7,048.35	8,000.00
		$43,061.10
FUND BALANCE		$43,061.10
		$43,061.10

General Fund
Statement of Income and Expenses
For the Fiscal Year Ended September 30, 1951
Exhibit "B"

GROSS INCOME		ACTUAL	BUDGET
Membership dues		$43,701.78	
Royalties on History of Medicine in Virginia		21.20	
Interest on savings accounts and securities		295.72	
Commercial exhibits and conventions		4,568.54	
Virginia Medical Monthly:			
Advertising	$17,349.32		
Subscriptions—Nonmembers	329.65	17,678.97	
Miscellaneous:			
American Medical Association	$ 353.28		
Profit on sale of U. S. Treasury Bonds	146.74	500.02	
TOTAL GROSS INCOME		$66,766.23	

EXPENSES		
Executive Office:		
Salaries	$13,800.00	$15,200.00
Office rent	300.00	600.00
Telephone and telegrams	481.10	400.00
Postage	304.87	300.00
Stationery and office supplies	449.11	350.00
Office equipment—Repairs and new equipment	349.19	300.00
Convention expenses	-----	700.00
Council expenses	485.57	425.00
Delegates to A.M.A. Convention	721.34	1,000.00
President's expense	380.41	600.00
Scientific Exhibits Committee	1,641.95	1,600.00
Walter Reed Commission	30.70	75.00
Cancer Committee	----	400.00
Maternal Health Committee	26.34	30.00
Medical Service Committee	93.26	150.00
Child Welfare Committee	-----	25.00
National Emergency Medical Service Committee	7.20	150.00
Membership dues—Affiliated agencies	50.00	60.00
Special appropriations by President	----	500.00
Special Appropriations:		
Virginia Council Health and Medical Care	2,000.00	2,000.00
Conference on Medical Service	-----	150.00
National Society Medical Research	150.00	150.00
A.M.A.—American Medical Education Foundation	1,000.00	1,000.00
Preparation and distribution of Medical Journal	14,968.71	15,000.00
Woman's Auxiliary	50.00	400.00
Social security taxes	326.46	300.00
Department of Clinical and Medical Education	194.15	1,000.00
Grievance Committee	32.72	-----
Miscellaneous	327.92	250.00
Purchase of Building:		
Building cost and upkeep	28,076.43	-----
Interior decorating	5,160.57	5,000.00
New oil furnace	1,780.00	2,000.00
Storage room	350.00	750.00
TOTAL EXECUTIVE OFFICE	$73,538.00	$50,865.00

Public Relations Department:		
Salaries	$10,699.99	$12.100.00
Office rent	300.00	600.00
Telephone and telegrams	1,006.42	1,400.00
Traveling expense	630.09	2,000.00
Postage	382.22	1,000.00
Stationery and office supplies	421.20	400.00
Conference expenses	340.22	1,000.00
Radio	-----	1,500.00
Press	-----	1,000.00
Printing, literature and bulletins	74.50	2,000.00
Office equipment—Repairs and new equipment	549.90	400.00
Education campaign	91.51)	
Miscellaneous	317.01)	1,000.00
TOTAL PUBLIC RELATIONS DEPARTMENT	$14,813.06	$24,400.00
TOTAL EXPENSES	$88,351.06	$75,265.00
EXCESS OF EXPENSES OVER INCOME FOR THE YEAR	$21,584.83	

Legislative Committee—Special Fund
Statement of Income and Expenses
For the Fiscal Year Ended September 30, 1951
Exhibit "C"

INCOME		
Interest realized on sale of securities	$57.00	
Interest on savings account	1.36	$ 58.36
EXPENSES		
Legal fees		600.00
EXCESS OF EXPENSES OVER INCOME FOR THE YEAR		$541.64

Fixed Assets
September 30, 1951
Schedule 2
PLANT FUND

LAND AND BUILDINGS—At cost		
Walter Reed House, Belroi, Virginia		$ 1,000.00
Office building—1105 West Franklin Street, Richmond, Virginia		34,061.10
TOTAL LAND AND BUILDINGS		$35,061.10
OFFICE FURNITURE AND EQUIPMENT		
Estimated insurable value at October 1, 1950		$ 7,048.35
Purchased during year ended September 30, 1951:		
Adding machine	$100.00	
Addressograph-Multigraph stand	127.50	
Protectograph—Check writer	110.30	
Typewriter	156.20	
File cabinets (2)	71.50	
Vacuum cleaner	69.95	
Desks and chairs (2)	316.20	951.65
TOTAL OFFICE FURNITURE AND EQUIPMENT		$ 8,000.00
TOTAL FIXED ASSETS		$43,061.10

Investment Bonds
September 30, 1951
Schedule 1
GENERAL FUND

TYPE OF BONDS	SERIES	NO. BONDS	DATED	DUE	VALUE AT MATURITY	COST	VALUE AT 9-30-50	VALUE AT 9-30-51
U. S. Savings	F	10	2-1-43	2-1-55	$ 5,000.00	$ 3,700.00	$ 4,305.00	$ 4,435.00
U. S. Savings	F	17	12-1-43	12-1-55	8,500.00	6,290.00	7.097.50	7,318.50
U. S. Savings	F	1	1-1-44	1-1-56	500.00	370.00	417.50	430.50
U. S. Savings	F	3	2-1-44	2-1-56	1,500.00	1,110.00	1,252.50	1,291.50
U. S. Savings	F	2	6-1-44	6-1-56	1,000.00	740.00	822.00	848.00
U. S. Savings	F	2	12-1-44	12-1-56	1,000.00	740.00	809.00	835.00
U. S. Savings	F	2	5-1-45	5-1-57	1,000.00	740.00	797.00	822.00
U. S. Savings	F	7	11-1-45	11-1-57	7,000.00	5,180.00	5,502.00	5,663.00
U. S. Savings	F	6	10-1-49	10-1-61	3,000.00	2,220.00	2,220.00	2,235.00
TOTAL					$28,500.00	$21,090.00	$23,222.50	$23,878.50

Legislative Committee

SPECIAL FUND

U. S. Savings	F	1	3-1-46	3-1-58	$ 500.00	$ 370.00	$ 393.00	$ 404.50
U. S. Savings	F	10	3-1-46	3-1-58	10,000.00	7,400.00	7,860.00	8,090.00
TOTAL					$10,500.00	$ 7,770.00	$ 8.253.00	$ 8,494.50

MENTAL HEALTH

Joseph E. Barrett, M.D.
Commissioner, Department of Mental Hygiene and Hospitals.

Clinic Procedure*

Fear, misinformation, and a nebulous attitude of mysticism still prevail among the lay population, and even in professional quarters, when potential use of the services of a mental hygiene clinic or a guidance center is anticipated. Ignorance of procedure and general operation of the clinic only serve to heighten such feelings. To lessen such factors it is important that those who refer individuals and families to a clinic have a reasonable concept of procedure in the given clinic so that they may be prepared to deal with the initial anxieties of the families and persons seeking such help. A clearer understanding of clinic procedure also would enable those who utilize the clinic for referral purpose to determine more effectively which families or individuals could profit from clinic services rather than other agencies in the community.

The following is a statement of procedure and operation of the Arlington County Guidance Center. Other community clinics maintain essentially the same procedure. The variations found are those based upon varying community needs and varying skills and training of the staff members. The Arlington County Guidance Center serves to deal diagnostically and therapeutically with the emotional disturbances of children and their families and adults. Each referral undergoes a preliminary diagnostic study prior to further arrangements for a therapeutic contact with the clinic. Referral is accepted from almost any source and the applications are acceptable generally from residents of the county and from families whose incomes are at a level which makes private help prohibitive. The application must be filed by the families or adults involved.

With the children's cases the "team" approach is utilized where parent and child are seen by their respective therapist. The implication of such an approach is not judgmental in the sense of determining who is the "problem"—parent or child—and dealing then with such member. The approach rather emphasizes the realization that the disturbances seen usually reflect difficulties in living between the child and his family and that both can and do profit in coming for help and being seen. Insofar as procedure is concerned an initial interview is held by the intake worker with the parent (usually mother) of the child referred. During that initial interview an evaluation of the problem, of the family is made. In addition some explanation of clinic services and clinic methods are offered the parents. Arrangements are then made to have the child seen by the Clinical Psychologist and the Child Psychiatrist as appears indicated following conference with the Child Psychiatrist, so that some formulation of the problem may be made. Further contacts with the parents are undertaken by the Social Worker while the child is seen by the other staff members for further elaboration of the difficulties. Following such contacts the respective staff members meet to determine the most effective way of dealing with the referral. A subsequent interpretative hour is held by the Social Worker with the parent at which time clinic recommendations are interpreted and subsequent planning for future contacts is worked out if such appears indicated. Ordinarily such referral is placed on the clinic waiting list until such time as staff time is available. Referrals are usually seen fairly soon after contact with the clinic and diagnostic workup is carried through shortly thereafter. A request for a report of physical examination is made at the time of initial application.

In treatment the children are usually seen by the Child Psychiatrist. The Clinical Psychologist sees a few children, such cases being continually reviewed and discussed with the Child Psychiatrist. The parent or parents, as appears indicated, are seen by the Social Workers or the other psychiatrist member of the clinic staff during the same hour that the child is being seen by his therapist. Cases in therapy are usually seen on once-a-week basis. Cases are staffed periodically, at which time a review of the progress and dynamics is made. In addition, the referring agency and other individuals, such as school personnel, etc., are present so that appropriate

*Article prepared by Dr. William Stark, Child Psychiatrist, Arlington County Guidance Center.

and unified planning for the child ensues. Some interpretation is given these individuals so that the environmental handling operates to the advantage of the child's welfare.

The adult cases are handled in much the same way, an interview with the intake worker, interview with the Psychiatrist and/or Clinical Psychologist. Cases accepted for therapy are seen on a once-a-week basis. To facilitate adult therapy an evening clinic is maintained where four additional psychiatrists serve and see patients on a once-a-week basis.

At the present time group therapy is being conducted with adults and children. For purposes of research and training, a children's group has been formed, the group being seen by the Clinical Psychologist while the respective parents are seen in a group by the Child Psychiatrist. An adult group is conducted in the evening clinic.

In terms of total active case load, approximately 35-40% of the total case load of the clinic are problems with children. The remaining percentage involves adult patients, some of whom, it might be added, are parents of children who are also under treatment in the clinic.

In terms of community activity the various staff members periodically address various lay groups, serving to interpret the clinic's activities and to further augment the psychiatric and mental hygiene viewpoint in daily living. This activity is further augmented by cooperation with the Mental Hygiene Society of Northern Virginia. Several of the clinic staff serve on important boards and committees of this society. The clinic offers supervisory time to various social agencies in the community and to the staffs of some of the local private schools. In addition the clinic team serves in a consulting capacity to the staff of a well baby clinic established with psychiatric orientation. The Psychiatric Nurse Consultant and her staff are supervised in their community and individual case contacts. The clinic is used extensively as a source of help by the Juvenile Court for evaluation and diagnosis and one of the staff members serves in a consultant capacity to the Court.

Since the mental hygiene clinic is usually the only facility of its kind in the community demands for its various services are extensive. For its optimal use judicious referral is essential. The mental hygiene clinic can serve the citizens of its community better when those who refer patients to it are familiar with the nature of its procedure and operation.

United States Healthiest Large Nation in World.

An article written by Frank G. Dickinson, Ph.D., director of the Bureau of Medical Economic Research of the A.M.A., in October *Today's Health* states that "our rate of health progress, as shown by increasing life expectancy, is also greater than that of the other large nations and nearly all of the small nations. Our rapid adoption of the knowledge that medical science has gained makes this possible."

The extent of our medical facilities is also a factor in this progress, the article reported.

"We have the greatest number of physicians per 100,000 population of any nation in the world except Palestine, where many of the refugee physicians do not make their living by practicing medicine," Dr. Dickinson wrote.

"Although we have chosen to spend only four cents in every dollar of our family budget for medical care, we seem to use our expenditures rather well."

Dr. Dickinson pointed out that although in Sweden only one-fifth of all births are attended by physicians, there is an extremely low maternal mortality rate. However, he noted that Swedish persons live longer in Minnesota than in Sweden.

The former fact shows, the article concluded, "that physiological and environmental differences are important as well as differences in medical facilities. Yet, with the cooperation of engineering and other professions, medicine has produced remarkable health progress in the United States."

PUBLIC HEALTH

M. I. Shanholtz, M.D.
State Health Commissioner of Virginia.

The Problem of Aging

At the 79th Annual Meeting of the American Public Health Association in San Francisco, October 29-November 2, there was serious discussion of the various aspects of the problem presented by a population in which each year there occurs an increasing proportion of older people. Under the title Aging Challenges Public Health, distinguished public health workers discussed such phases of the problem as the following:

Health Promotion in the Older Years
Rehabilitation and Restoration of Older People
Housing and Living Arrangements of Older People
The Role of Industrial Hygiene in Relation to the Older Worker

Such discussions are timely, since much of former effort has been directed toward the mere extension of life without much consideration of whether the life was useful and satisfying after extension. Pneumonia, formerly called the "friend of the aged", has, through the use of modern therapuetic aids, been compelled to defer his services. It is hard to say how old people feel about it, but doubtless many a one may secretly desire to sing his "Nunc Dimittis", unchecked by the procedures which operate to give him length of years without fulness of life.

In a recent issue of the Saturday Review of Literature, John Ely Burchard, Dean of Humanities at Massachusetts Institute of Technology, points out that despite our technological and economic advances, there is evident a lack of real enjoyment of life. With increase of years, many do not know how to use their leisure profitably or with pleasure. Too many interpret advance in material lines only, such as accumulation of money or things. Helping people to live longer, we do not help them to live usefully. Retirement is specified for chronological age rather than by a standard of physical stamina and mental potentiality.

Too often our educational system has given little help. Mass education in the main has produced literacy but not taste. In the field of higher education, specialization has become so intense that the specialized person is rarely fit for effort or appreciation of activity outside his specialty. For many, the motion picture, radio and television have failed of their educational and amusement promise.

Probably the indictment is overdrawn, but certainly, in our effort to lengthen the life of people, we must take thought to making that life more worth living. Some of the specific items that need to be considered in meeting the problems of old age are connected with retirement. To what extent are retired persons employable either full time or part time? Consideration needs to be given to the health and medical needs of older people and to the facilities available for adult education for this group. The helpful physician must be aware of the emotional grip of the family circle and the shock when broken. Partial compensation may be achieved through well appointed boarding homes and social centers for older people.

In the matter of nutrition, the older person needs advice as to the type of food he should eat to protect health and insure body functioning and well being. This advice will concern itself with such items as the need for vitamins, minerals—especially calcium and iron, and high quality protein.

In summary, how can older people be helped to *wear* out rather than to *rust* out? It has been well said, "Research has given us more years in which to live; now physicians must help solve the problem of giving life to those years".

Monthly Morbidity Report of the Bureau of Communicable Disease Control

	Oct. 1951	Oct. 1950	Jan.-Oct. 1951	Jan.-Oct. 1950
Brucellosis	5	5	71	52
Diarrhea and Dysentery	394	211	2,696	3,458
Diphtheria	38	23	126	155
Measles	94	67	13,840	2,607
Meningitis (Meningococcal)	7	4	102	96
Poliomyelitis	44	187	235	1,074
Rocky Mountain Spotted Fever	1	10	59	74
Scarlet Fever	49	81	781	725
Tularemia	2	1	35	34
Typhoid and Paratyphoid	11	11	52	79

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

*President*_____ MRS. HERMAN W. FARBER, Petersburg
President-Elect—
MRS. THOS. N. HUNNICUTT, JR., Newport News
*Recording Sec'y*_____MRS. L. BENJ. SHEPPARD, Richmond
*Corresponding Sec'y*__MRS. CARNEY C. PEARCE, Petersburg
*Treasurer*_____MRS. KALFORD W. HOWARD, Portsmouth
Publication Chairman MRS. ROBT. H. DETWILER, Arlington

Inaugural Address of Mrs. Farber.

MEMBERS OF THE AUXILIARY:

I feel it is a great privilege and pleasure to serve as your President for the coming year. As President, I realize that I can only be a coordinator. The success or failure of our work this year will be due to all of our efforts.

As many of you know, Virginia has been organized for 29 years, with the original purpose of the Auxiliary being purely social. Today, I am sure that these early organizers would be amazed at the progress of our organization and the extensiveness of our program.

Year by year new projects have been added and have gained in importance, and for the past year and a half Compulsory Health Insurance has encompassed everything that we have been doing. This still remains one of our greatest challenges, and I am sure everyone in the Auxiliary is aware of the necessity of our continuing to work to preserve our American system of Medical care.

Dr. Cline, President of the A.M.A., in his June 1951 address to the Auxiliary, has said: "This fight is not over and we have adequate evidence that stormy days are ahead. We have come a tremendous distance but until and unless we can effect a complete victory there will be no security for the American way of life. So, please, you ladies, leaders of the Auxiliary from all over the Country, will you carry back the message that greater organization and greater activity will be necessary? Your activities and efforts have been great, but we ask you to please try to redouble them in the course of the next year."

Mrs. Harold Wahlquist, our National President, has suggested as our slogan this year, "Working Together for Better Health". As doctor's wives we must assume, with our husbands, health leadership in our communities.

It is important that our Auxiliaries have active Nurse Recruitment Committees. Voluntary Health Organizations, with their emphasis on research, prevention, care and rehabilitation offer many opportunities for leadership.

One of our most important objectives is Health Education. We must give the public authentic information. This can be done by exhibits, posters, sponsoring contests, use of visual aids and utilizing our newspapers and radio stations.

There is so much we can accomplish both as Auxiliary members and as individuals, and as your President, I pledge my loyalty to the Auxiliary and its projects.

I thank you for the confidence you have placed in me, and am certain that I will have your wholehearted support during the coming year.

HENRIETTA S. FARBER
(MRS. HERMAN W.)

List of Officers and Chairmen.

In addition to the officers and chairmen listed at head of this Department, the VICE-PRESIDENTS are: Mrs. Edward S. Ray, Richmond; Mrs. R. E. Booker, Lottsburg; and Mrs. Sheppard K. Ames, Cape Charles.

DIRECTORS: Mrs. C. M. McCoy, Norfolk; Mrs. Hawes Campbell, Richmond; Mrs. Waverly R. Payne, Newport News.

FINANCE: Mrs. Lemuel Mayo, Portsmouth.

LEGISLATION: Mrs. Maynard R. Emlaw, Richmond.

TODAY'S HEALTH: Mrs. Walter A. Porter, Hillsville.

ORGANIZATION: Mrs. Thos. N. Hunnicutt, Jr., Newport News.

REVISIONS: Mrs. J. L. DeCormis, Accomac.

PROGRAM: Mrs. W. P. Sellers, Norfolk.

PUBLIC RELATIONS: Mrs. J. M. Booker, Lottsburg.

BULLETIN: Mrs. F. Preston Titus, Alexandria.

CANCER CONTROL: Mrs. Frederick L. Finch, Richmond.

LEIGH-HODGES-WRIGHT MEMORIAL: Mrs. Fletcher J. Wright, Sr., Petersburg.

JANE TODD CRAWFORD MEMORIAL: Mrs. Lee S. Liggan, Irvington.

EXHIBIT: Mrs. R. H. Harrington, Marion.

COUNCILLOR TO SOUTHERN: Mrs. Waverly R. Payne, Newport News.

RESEARCH AND ROMANCE OF MEDICINE: Mrs. J. E. Hamner, Petersburg.

NURSE RECRUITMENT: Mrs. J. R. Grinels, Richmond.

CIVILIAN DEFENSE: Mrs. R. M. Reynolds, Norfolk.

HISTORIAN: Mrs. M. H. Harris, West Point.

PARLIAMENTARIAN: Mrs. Herbert W. Rogers, Norfolk.

EDITORIAL

The 104th Annual Meeting

DR. C. Lydon Harrell's meeting at Virginia Beach, October 7, 8, 9 and 10, was a success from every point of view. The attendance was 931, of which 638 were doctors, 177 their ladies, and 119 exhibitors. It is gratifying that so many doctors bring their wives, for their presence is a distinct asset. The Cavalier Hotel cooperated in every way to make everyone's stay enjoyable and succeeded admirably.

There were 51 technical exhibits which evidently were very attractive for they were well attended. The scientific exhibits were of high quality. Dr. T. Addison Morgan of the Raiford Clinic was awarded first prize for his X-ray Study of the Development of the Human Fetus. Second prize went to Dr. William Parson and Dr. K. R. Crispell of the Department of Internal Medicine of the University of Virginia for an exhibit of their work with Radioactive Iodine 1.31 in the Diagnosis and Treatment of Hyperthyroidism. Dr. Robert L. Payne, Jr., of Norfolk, won third prize with his Reconstructive Surgery of the Hand. The exhibits, together with the scientific sessions, constitute a valuable and compact post-graduate course in medicine. This was particularly true this year.

The guest speakers were exceptionally good and were ably supplemented by our own members. Our impression is that there is more worthwhile clinical investigation going on in Virginia than ever before. These papers will appear in the *Monthly* during the coming year and will make valuable reading. There are too many to mention individually at this time, but we will call attention to those of the guests. Dr. Winthrop M. Phelps of Baltimore discussed the General Management of the Cerebral Palsy Problem before the General Session on Monday afternoon. Another guest, Dr. Theodore E. Woodward, also of Baltimore, presented Bacterial Diseases in the panel discussion on the Management of Infectious Diseases, on Tuesday morning. On Tuesday afternoon, Dr. John E. Howard discussed the Diagnosis and Treatment of Various Types of Spontaneous Hypoglycemia.

At the open General Session on Monday evening, the Honorable Hugh D. Scott of Philadelphia gave an inspiring talk. Representative Scott is a native of Fredericksburg and it was nice to have him back in Virginia even for a day.

The House of Delegates had several busy sessions. The proceedings will appear in the *Monthly*. Among its accomplishments was the creation of a new Standing Committee or rather the splitting of the Program and Publication Committee into two committees. Under the new arrangement, the Committee on Publication will be able to devote its whole time to the *Monthly*.

The officers elected are: President-elect, Dr. James L. Hamner, Mannboro; vice-presidents, Dr. Ira L. Hancock, Creeds, Dr. Walter P. Adams, Norfolk, and Dr. Mary Elizabeth Johnston, Tazewell; and executive secretary-treasurer, Robert I. Howard, Richmond. Dr. John T. T. Hundley, Lynchburg, was installed as president. The nine councilors (those from the odd numbered districts being newly elected) are: Dr. Albert A. Creecy, Newport News; Dr. Walter P. Adams, Norfolk; Dr. Guy W. Horsley, Richmond; Dr. Wilkins J. Ozlin, South Hill; Dr. Louis P. Bailey, Nathalie; Dr. Frank A. Farmer, Roanoke; Dr. Harold W. Miller, Woodstock; Dr. Vincent W. Archer, Charlottesville; and Dr. James P. King, Radford. Dr. Vincent W. Archer

of Charlottesville and Dr. M. H. Harris of West Point were elected as delegates to the American Medical Association, together with Dr. J. Morrison Hutcheson of Richmond, whose term of office holds over.

The special luncheons and the alumni dinners were well attended. They are well worthwhile but are hard to work in so as not to interfere with the general program. The climax of the social side of the convention was, of course, the annual dinner on Tuesday evening. This was a gala affair.

The Medical Society of Virginia was greatly honored this year by the presence of the President-Elect of the American Medical Association, Dr. Louis H. Bauer. Dr. Bauer has held almost all of the high offices in the A.M.A. and is besides the secretary of the World Medical Association. He took part in a symposium "You and Your A.M.A." More specifically, his theme was "You Are the A.M.A." When you consider the continuing work of the various Councils, Bureaus, the abstracting, and indexing of the medical literature, the new twenty-five dollar dues seem mighty little. We hope that every member of The Medical Society of Virginia will read what the gentlemen of the symposium, Drs. Walter B. Martin, H. B. Mulholland, John T. T. Hundley, and Louis H. Bauer had to say on this subject.

History Taking

TAKING a clinical history is something every medical student must learn. Some come by it naturally and others must work hard to acquire the art. It is like painting a landscape, some can do it quickly with water colors while others have to work over it with the more painstaking technic of an oil painting.

It is hardly necessary to explain why a clinical case history is necessary. No one's memory is so good that he can remember all the details of an illness and, in following the therapy, one must frequently refer to the history. Then too one needs a clinical picture of the case as a means of comparison with similar cases. Incidentally the taking of the history promotes accurate observation. A good history, like a good landscape, is one that, when read by another, gives the same picture that the original observer had in the first place. Acute illnesses are suitable for water color technic for the symptoms stand out startlingly and bold in the patient's story. Chronic illnesses require a careful, painstaking technic such as a painter in oils uses, in order to get the proper values of light and shade. Harvey Cushing, who was a past master at word painting, frequently illustrated his case histories with little sketches of the patient's posture or facies.

Just as the landscape painter puts a lot of himself in the picture, so there is danger of the doctor putting the wrong emphasis upon some unimportant symptoms and overlooking some really important ones. Preconceived notions should be left in the anteroom, like Claud Bernard's overcoat. The history should be as objective as it is possible to make it, and frequently this is hard to do. What the patient thinks is unimportant (unless you are working on a psychiatric ward). What the patient has in the way of pain and disability is the important thing. Recently, we were visiting a clinic in another state. The lady interne, in presenting the case, started off by saying the patient thinks he had the gout five years ago. She did not say what signs and symptoms the patient had. She continued in the same strain stating the various diagnoses

that were made at other clinics and the patient's opinions as the disease progressed. We are sure the students present got a very imperfect picture of the disease the patient had.

The patient's story is the important thing in the history and it should contain, as it usually does, all the positive facts. The negative facts should be catalogued in the system review. Leading questions should be avoided. Just as statistics can be made to prove almost anything, so leading questions can color any clinical history. Keep striving to write a perfect history. It is an art that needs constant practice, but it will repay you in many ways.

Oren Moore
1886-1951

IN THE death of Dr. Oren Moore on August 29th, North Carolina and the South lost its most lovable doctor. Much could be said of him as a citizen and as a churchman, but it is his career in medicine with which we are concerned at the moment. No man has done more to spread the gospel of good obstetrics through the South.

Dr. Moore was by inheritance an alumnus of the Medical College of Virginia, for the North Carolina Medical College from which he graduated M.D. in 1911 was absorbed by the Medical College of Virginia in 1914. After post-graduate work at McGill and at the University of Pennsylvania, he returned to Charlotte and was associated in practice with his uncle Dr. Charles M. Strong. He was also associate professor of gynecology at North Carolina Medical College. At the time of his death he was chief of obstetrics and gynecology at the Presbyterian Hospital, a member of the staff of the Memorial Hospital, a member of the advisory staff of the Good Samaritan Hospital. For many years he was consultant at Camden Hospital, Camden, S.C., Conway Hospital, Conway, S.C., and Davis Hospital at Statesville, N.C. He was a past president of the North Carolina Medical Society and was the chairman of its Grievance committee. He was an honorary member of the Florida Obstetrical and Gynecological Society, and a member of the American Association for the Study of Sterility and of The American Association of Obstetricians, Gynecologists and Abdominal Surgeons. As one of the founders of the South Atlantic Association of Obstetricians and Gynecologists, he took an active part in its organization meeting in Charlotte, and in its subsequent development, and in 1950 he became its president.

Oren Moore had a charming personality and it was a delight just to be in his presence. His fellow townsman, James Northington, has said of him, "No man ever heard from his lips a coarse remark, or a witticism that carried a barb.", a statement we believe is literally true. As a raconteur he was without a peer. Several years ago, at the annual meeting of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons at Hot Springs, the banquet speaker failed to show up. Oren Moore substituted for him with only half hour's notice. It turned out to be one of the most enjoyable occasions in the history of the Association.

He used his great talents freely in the service of his church and his profession. Wherever he went, and he was a regular attendant of the Southern Medical Association, the American Medical Association and the Tri-State Medical Association of the Carolinas and Virginia, he promoted good fellowship. He was an inspiration to the younger obstetricians and gynecologists of the South.

PRESIDENT'S MESSAGE

AN ARTICLE of mine, reporting a public opinion survey, has been rather widely publicized. As a consequence I have received a number of letters complaining of alleged instances of medical mismanagement, overcharging, or malpractice. In addition, both before and since my installation as president of The Medical Society of Virginia, I have been referred problems of patient-doctor relationship which I have studied and referred to county or state Griveance Committees.

The complaints have been varied, but my study of the cases presented, leads me to the conclusion that the basic fault, in each instance, has been failure, on the part of the doctor, to attain and maintain good and frank relationships with the patient or the family. The failure to discuss the condition under treatment, to explain complications to the patient or his family, to ask for or accept early consultation, or to discuss and explain fees, have been the basic problems.

The problems which have been brought to my attention, and they have come from all sections of Virginia and from beyond the borders of the state, have resulted from personal rather than professional failures.

It has been said often that the most important element in good Medical Public Relations is the frank, friendly relationship of the individual doctor with his patient. The cases reported to me emphasize that statement.

JOHN T. T. HUNDLEY, M.D.
President, The Medical Society of Virginia

SOCIETY PROCEEDINGS

The Northern Neck Medical Association

Held its Fall meeting at Tides Inn, Irvington, on October 25. Dr. L. S. Liggan presided at the morning session and Dr. Melvin Lamberth, the incoming president, at the afternoon session. Officers elected to serve with Dr. Lamberth are: President-elect, Dr. Paul C. Pearson, Warsaw; vice-president, Dr. A. B. Gravatt, Jr., Bowling Green; and secretary-treasurer, Dr. William H. Matthews, White Stone.

The Society went on record as approving the continuance of the post-graduate lecture courses which are held jointly with the Mid-Tidewater Medical Society at Tappahannock, biannually. Delegates to the next meeting of The Medical Society of Virginia were appointed.

At the afternoon session, scientific papers were presented. Dr. W. Lowndes Peple, Jr. spoke on Primary Carcinoma of the Gallbladder; Dr. William Harris on The Toxicity of Intramuscular Injection of Mercuhydrin; and Dr. Thomas W. Murrell, Jr. gave a talk on The Use of Antibiotics in the Treatment of Common Skin Diseases. All of the speakers are from Richmond.

The annual banquet was held at the conclusion of the meeting.

Tazewell County Medical Society.

The meeting of this Society on October 26 took the form of a Post-Graduate Seminar at the Tazewell County Country Club, put on by the Department of Clinical and Medical Education of The Medical Society of Virginia. Each speaker was given an hour in the afternoon and evening, with an intermission for social hour and dinner.

In the afternoon, the subjects were The Treatment of the Exanthematous Diseases by Dr. Myron M. Nichols, Instructor in Pediatrics at the University of Virginia; The Treatment of Cardiac Failure by Dr. William R. Kay, Associate in Medicine at the Medical College of Virginia; and The Management of Thyroid Disease by Dr. Kenneth R. Crispell, Assistant Professor of Internal Medicine at the University of Virginia.

At the evening session, Dr. Kay spoke on The Office Management of Diabetics; Dr. Crispell on The Menopause; and Dr. Nichols on The Significance of Heart Murmurs in Children.

The Southwestern Virginia Medical Society

Met at Hotel Roanoke on September 27 in a joint meeting with the Roanoke Academy of Medicine, and had the following speakers:

Dr. Byrd Leavell, Charlottesville—Problems Associated with Splenomegaly

Dr. T. E. Woodward, Baltimore—Therapy of Microbial Diseases with a Discussion of Certain Limitations

Dr. John L. Keeley, Chicago—Diagnosis and Management of Pediatric Surgical Problems

Dr. W. O. Thompson, Chicago—Uses and Misuses of Sex Hormones

Dr. Bayard Carter, Durham—Place of Histocytologic Technic in Cancer Diagnosis in Obstetrical and Gynecological Patients

The Society accepted eleven new members, adopted a new Constitution and By-Laws, and voted that the present delegates to The Medical Society of Virginia be continued through the annual meeting in the Fall of 1952.

Officers elected are: President, Dr. A. F. Giesen, Radford, succeeding Dr. James P. King of Radford; vice-president, Dr. Frank A. Farmer, Roanoke; secretary-treasurer, Dr. R. C. Potter (re-elected), Marion. Dr. R. L. Hillman of Emory was elected as an Executive Council member; and Drs. A. M. Showalter of Christiansburg, W. A. Porter of Hillsville, W. C. Caudill of Pearisburg, R. E. Glendy of Roanoke, and T. K. McKee of Saltville were elected members of the Judiciary Committee.

The ladies had a fashion show in the afternoon which was followed by a meeting of the Auxiliary after which they met with the doctors during the social hour and banquet.

The Society accepted an invitation to hold the Spring meeting at Maple Shade Inn in Pulaski.

The Lynchburg Academy of Medicine

Held its regular monthly meeting on October 15th at the Lynchburg General Hospital, at which time two doctors were elected to membership. A colored movie was shown entitled "Prevention and Treatment of Thrombosis".

In November, the Academy held a dinner meeting on the 12th at the Virginian Hotel. Dr. Charles Daniels of Columbia University spoke on "Masquerade of Carcinoma of the Lungs".

Dr. J. W. Davis, Jr. is president, and Dr. Edwin A. Harper secretary.

Roanoke Academy of Medicine.

The November meeting of the Academy was on the 5th at Hotel Roanoke, Dr. E. G. Gill, retiring president, presiding. The Committee reports for the past year were so important and interesting that it was late before Dr. Ira Hurt, the new president, and Dr. Philip C. Trout, secretary, were inducted into office. Due to the late hour, the Presidential address and other program were deferred to a later date.

Augusta County Medical Association.

Dr. Russell Haden of Crozet, now retired but formerly chief of medicine of the Cleveland Clinic, was the guest speaker at the November 8 meeting of the Association at Hotel General Wayne, Waynesboro. His topic was "Use and Abuse of Blood and Its Derivatives".

Dr. Boyd Payne of Staunton is president and Dr. William G. Painter of Mount Sidney secretary.

NEWS

Special Society Meetings

At time of the State Society at Virginia Beach report as follows:

Virginia Academy of General Practice

Dr. John O. Boyd, Jr., Roanoke, succeeded to the presidency at this meeting and the following officers were elected: President-elect, Dr. Edward E. Haddock, Richmond; vice-president, Dr. John R. St. George, Portsmouth; secretary, Dr. W. Linwood Ball, Richmond. New members of the Board of Directors whose terms will expire in 1954 are Dr. A. L. Van Name, Urbanna, and Dr. J. A. B. Lowry, Crewe. Dr. Fred Maphis of Strasburg was also elected for a three year term but has since resigned and this vacancy has not been filled. Dr. Harry Frieden of Norfolk was elected to the Board to fill the vacancy caused by death of Dr. H. W. Rogers of that city.

The Academy decided to open a full-time office with a full-time secretary on January 1, 1952, with

offices on the second floor of 1105 West Franklin Street, Richmond. Mrs. Helen Seller, formerly with the Alumni Association of the Medical College of Virginia, will be secretary.

VIRGINIA OBSTRETRICAL AND GYNECOLOGICAL SOCIETY

At the annual meeting, Dr. Henry C. Spalding of Richmond became president, succeeding Dr. John M. Nokes of Charlottesville. Dr. John R. Kight of Norfolk was made president-elect, and Dr. Chester D. Bradley of Newport News was re-elected secretary-treasurer. Dr. Rufus P. Ellett, Jr., Roanoke, and Dr. Thomas G. Bell, Staunton, were admitted to membership.

The following were registered in attendance: Drs. John M. Nokes and William N. Thornton, Jr., Charlottesville; Drs. Chester D. Bradley, Harvey G. Bland and Waverly R. Payne, Newport News; Drs. A. L. Carson, L. L. Shamburger, H. Hudnall Ware, Jr., William Bickers, W. Hughes Evans, James M. Whitfield, Henry C. Spalding, Joseph C. Parker, William T. Moore and Spotswood Robins, Richmond; Drs. Paige E. Thornhill, Brock D. Jones, Jr., Millard B. Savage, G. Bentley Byrd, Wm. E. Byrd, Milton H. Bland, Richard B. Nicholls and John R. Kight, Norfolk; Dr. J. M. Habel, Jr., Suffolk; Dr. Chester L. Riley, Winchester; Drs. Walter L. McMann and John J. Marsella, Danville; Drs. Samuel E. Oglesby and John R. Saunders, Lynchburg; Dr. George Speck, Arlington; Dr. William D. Varner, Franklin; Dr. John H. Gayle, Hampton; Dr. Gordon W. Jones, Fredericksburg; and Dr. George S. Hurt, Roanoke.

VIRGINIA UROLOGICAL SOCIETY

A luncheon and scientific session was held on the 9th, at which the following were elected: President, Dr. Roy Upchurch, Danville; vice-president, Dr. W. W. Koontz, Lynchburg; and secretary-treasurer, Dr. William Jones, Richmond.

This Society is making plans to have a tri-state meeting of Virginia, North Carolina and West Virginia.

VIRGINIA PEDIATRIC SOCIETY

The meeting of this Society at Virginia Beach was purely social, a business meeting having been held in the Spring. Officers are: President, Dr. Edwin Kendig, Jr., Richmond; vice-president, Dr. Paul Hogg, Newport News; and secretary-treasurer, Dr. T. J. Humphries, Roanoke.

VIRGINIA ORTHOPEDIC SOCIETY

This Society held its meeting on October 9, at the Princess Anne Country Club. Dr. Clarence Keefer of Lynchburg was elected president; Dr. Prentice Kinser of Danville vice-president; and Dr. Allen M. Ferry of Arlington was re-elected secretary-treasurer.

Elected to active membership were: Drs. Earnest Carpenter, Bradford Bennett, William Daner, Wieman Kretz and George Maxwell.

Elected to Novitiate membership were: Drs. Thomas Beath, Charles Bray and Forrest Swisher.

VIRGINIA SECTION, AMERICAN COLLEGE OF PHYSICIANS

This was a business and luncheon meeting on the 9th of October at Princess Anne Country Club. Dr. Byrd S. Leavell of Charlottesville was elected chairman, and Dr. James F. Waddill of Norfolk was re-elected secretary.

The next meeting is to be in Charlottesville, February 29, 1952.

VIRGINIA RADIOLOGICAL SOCIETY

At the meeting of this Society on the 9th of October, officers were elected for the coming year as follows: President, Dr. J. Lloyd Tabb, Richmond; vice-president, Dr. K. K. Wallace, Norfolk; and re-elected as secretary-treasurer, Dr. P. B. Parsons, Norfolk.

VIRGINIA DIABETES ASSOCIATION

The following officers for this Association were elected at the regular annual meeting at Virginia Beach on October 7: President, Dr. Snowden C. Hall, Jr., Danville; vice-presidents, Dr. C. D. Nofsinger, Roanoke, and Dr. Robert Bailey, Richmond; secretary-treasurer, Dr. William A. Read, Newport News.

At the scientific session, the program was presented as follows:

Diabetes in Pregnancy—Dr. James M. Moss, Washington, D. C.

Vascular Vulnerability in the Diabetic—Dr. R. Earle Glendy, Roanoke

Diabetic Retinopathy—Dr. L. Benj. Sheppard, Richmond

Concepts of Etiology of Diabetes—Dr. Thos. Edwards, Charlottesville

Insulin Resistance—Dr. William R. Jordan, Richmond

New Members of the State Board of Medical Examiners.

Dr. W. Holmes Chapman of Suffolk and Dr. Emily Gardner of Richmond have been appointed by Governor Battle as members of the Board from the Second and Third Congressional districts to fill the positions held by Dr. M. S. Fitchett of Norfolk and Dr. Guy W. Horsley of Richmond, whose terms had expired, as also Louis C. Mitman, D. C., of Alexandria in place of Arthur R. Hosking, D. C., of Danville. The new incumbents will serve until June 30, 1956.

At its recent meeting the Board adopted a motion expressing its acknowledgment of the diligence and high type of service rendered by the above named members who are leaving the Board.

The Christmas Seal.

Christmas Seals have become a holiday tradition in this country since 1907. In that year Miss Emily Bissell led the first sale of American Christmas Seals in order to raise funds for the treatment of eight needy tuberculous patients in Wilmington, Delaware. Since that time the yearly contributions of pennies for Christmas Seals have added up to make the dollars which have helped to reduce the tuberculosis death rate by more than 85 per cent.

Ninety-four per cent of the money raised by the Christmas Seal Sale remains in the community and state where it is spent to support local and state tuberculosis control programs.

Although the death rate from tuberculosis has fallen dramatically, the number of cases requiring treatment has increased. This apparent paradox is due partly to the expansion of case-finding procedures and partly to the fact that newer drugs and collapse measures have saved the lives of many individuals who a few years ago would have died within a short time of their diagnoses. In the State of Virginia there remains a very critical shortage of beds for Negroes who have tuberculosis, and the local and state tuberculosis associations are making a determined drive for additional sanatorium beds for the Negro patient.

Of the research projects supported by the tuberculosis associations of this state, the study in our state and municipal sanatoria of the effect of streptomycin on the course of tuberculosis and the current evaluation study of B C G vaccination at the Medical College of Virginia, partly financed by a grant for the past two years from the Richmond Tuberculosis Association, are probably of the greatest general interest.

It is of prime importance to find tuberculosis in the early stage, so that the individual affected can be placed under treatment and the spread of the disease can be prevented. The use of the small (70 mm.) film has made it possible to x-ray more individuals. X-ray of every new hospital admission is a good start. This has been inaugurated at the Medical College of Virginia out-patient clinic and some of the ward services.

Despite the marked decrease in the death rate from tuberculosis, this disease is far from eradicated, and it is only by the continued efforts of the medical profession with the support of the tuberculosis associations that the final goal of eradication will be attained.

Medical Staff Conferences.

The Winchester Memorial Hospital announces the following Conferences to which members of the Society are invited:

January 16—"The Management of the Nephrotic Syndrome in Children"—Dr. Conrad M. Riley, College of Physicians and Surgeons, Columbia University, New York.

February 20—"Symposium on Peptic Ulcer"—Dr. H. P. Maccubbin, Dr. Edmund Horgan, Dr. John McL. Adams, Winchester.

March 21—"Carcinoma of the Prostate"—Dr. Hartwell Harrison, Boston.

April 16—*The Annual Hunter H. McGuire Lecture*—(To be announced), Dr. Henry W. Cave, New York.

May 21—Clinicopathological Conference — Dr. George H. Murphy, Winchester.

Lectures which have already been given are Recent Experiences with Mitral Valve Surgery by Dr. Charles P. Bailey of Philadelphia; and the Annual Frank N. Hack Lecture—Heart Failure by Dr. Eugene P. Stead of Duke Hospital, Durham.

Dr. I. S. Zfass,

Richmond, was elected to the vice-presidency of the Southern Electroencephalographic Society at its annual meeting held in Washington, October 20 and 21. The meeting was held jointly with the Eastern Association of Electroencephalographers of which Dr. Zfass is also a member. Other officers of the Southern Association are Dr. E. Roseman of Louisville as president, and Dr. Irving Pine of Durham, secretary-treasurer.

News from the Medical College of Virginia.

Dr. Claude S. Beck, professor of neurosurgery at Western Reserve University School of Medicine, presented the twenty-third annual Stuart McGuire Lecture Series November 7 and 8 on "The Surgical Approach to Coronary Artery Disease" and "Resuscitation". On November 8 and 9 nine visiting lecturers conducted the Symposium on Cardiac Surgery and Cardiography. These programs were sponsored by the Department of Continuation Education of the medical college.

Dr. William T. Sanger, president of the Medical College of Virginia, was named president-elect of the National Society of Crippled Children and Adults at their annual meeting in Chicago in October. Last year he served as vice-president of the organization.

On October 19 the late William Lowndes Peple, professor emeritus of surgery, was honored by the presentation of his portrait to the medical college. Dr. Peple had served in the department of surgery for thirty-seven years, holding many posts with the University College of Medicine before that institution merged with the Medical College of Virginia in 1913. The portrait was unveiled by a grandson, William Lowndes Peple, III.

Dr. Richard W. Fowlkes, professor of dermatology and syphilology, was elected president of the Southeastern Dermatological Association at its annual meeting in Birmingham in September.

Dr. Issac A. Bigger, professor of surgery, delivered the post-graduate lecture at the Duke University School of Medicine October 27 on "Pulmonary Cysts, Emphysematous Blebs and Bullae, Diagnosis and Treatment".

Dr. Karl Freudenberg, professor of chemistry and director of the Chemical Institute at Heidelberg University spoke before the Biological Seminar on October 10 on "Glimpses of Carbohydrate Chemistry" under the sponsorship of the Richmond Area University Center.

Dr. Benjamin W. Rawles, Jr.,

Richmond, has been appointed chairman for the local chapter of the American Red Cross Blood program.

Dr. L. M. Conley,

Recently of St. Charles, has gone to Memphis, Tennessee, where he is taking a year's residency in medicine at St. Joseph Hospital.

Dr. A. Broaddus Gravatt, Jr.

Announces his change of address from Kilmarnock to Bowling Green.

Dr. Edward E. Haddock

Has been named to the City Council of Richmond, to succeed Councilman Edward E. Willey who has been elected to the State Senate. Dr. Haddock will take over his new duties in December.

News from the State Department of Health.

Dr. J. J. Kidney resigned as Health Officer of the Russell-Wise Health District as of November 15.

Effective December 1, King William County Health Department will be joined with the Caroline-Hanover unit, with Dr. J. D. Hamner, Jr. as Health Officer. Offices for the King William County Health Department will be located at West Point.

News from University of Virginia, Department of Medicine.

General physicians of the State have been invited to attend a conference on "Common Traumatic Injuries in General Practice", to be held in McKim Hall, Friday, January 11. The conference, under the direction of Dr. Edwin P. Lehman, University Professor of Surgery, will be the second in a series of post-graduate symposiums scheduled for the academic year, and will be followed by a conference on "Infectious Diseases", April 4.

Guest speakers will be Dr. Edward D. Churchhill, John Homans, Professor of Surgery, Harvard University, who will give the Charles S. Venable Memorial Lecture on "The Response of the Body to the Wound", and Dr. Everett I. Evans, Professor of Surgery and Director of the Surgical Laboratories,

Medical College of Virginia, who will lecture on "The Emergency Management of the Severely Burned".

Members of the School of Surgery, University Department of Medicine, who will lecture during the conference include Dr. William H. Parker, "The Small Wound"; Dr. E. Meredith Alrich, "The Massive and Multiple Injury"; Dr. William R. Sandusky, "Antibacterial Therapy of the Flesh Wound"; Dr. E. Cato Drash, "Chest Injury"; Dr. J. Hamilton Allan, "Closed Fractures and the Family Physician"; Dr. W. Gayle Crutchfield, "Central Nervous System Injuries".

Dr. James Robert Cash was honored December 1, his twentieth anniversary as Walter Reed Professor of Pathology at the University, with a banquet at Keswick Country Club, Charlottesville. Guests who gathered to pay tribute to the Chairman of Pathology included departmental chairmen, colleagues, friends and many of those who have trained under him.

Dr. Wesley A. Volk joined the University faculty September 1, as Acting Assistant Professor of Microbiology. A graduate of the University of Washington, Seattle, he holds a B.S. in Chemistry, M.S. and Ph.D. degrees in Microbiology.

Appointed recently as Lecturers in Internal Medicine are four Virginia physicians, Dr. Charles L. Crockett, Jr., of Roanoke, Dr. Lewis F. Bell, of Staunton, Dr. William Andrew MacIlwaine, of Waynesboro, and Dr. Donald Shotten, of Lynchburg.

Dr. Wyndham B. Blanton,

Richmond, was installed as the new President of the Society of the Cincinnati in the State of Virginia, at a meeting in Richmond the latter part of October. He succeeded Major-General Edgar Erskine Hume, U. S. A., former Librarian to the Army Medical Library.

Dr. A. Ray Dawson,

Chief of Physical Medicine and Rehabilitation at McGuire Veteran's Hospital, Richmond, was named chairman of the Physical Medicine and Rehabilitation Section of the Southern Medical Association at its meeting in Dallas, in November.

Dr. C. Lydon Harrell,

Norfolk, former president of The Medical Society of Virginia, on November 1 joined the staff of the American Red Cross for part time in the capacity of Director of the Blood Center for the Tidewater Area and on January 1, 1952, will be with them for full time.

American College of Surgeons.

Nine hundred and three initiates were received into fellowship and three honorary fellowships were conferred by the American College of Surgeons at the Convocation on Friday evening, November 9, the closing session of the thirty-seventh annual Clinical Congress in San Francisco. The fellowships were conferred by Dr. Alton Ochsner of New Orleans, President of the College. The Fellowship Address was delivered by Dr. J. Roscoe Miller, of Chicago, President of Northwestern University.

Those from Virginia upon whom fellowships were conferred are:

Dr. Harry Lee Archer	Charlottesville
Dr. William M. Deyerle	Richmond
Dr. James M. Habel, Jr.	Suffolk
Dr. John D. Hoyle	Alexandria
Dr. Ralph R. Landes	Danville
Dr. Louis P. Ripley	Roanoke
Dr. William H. Rogers	Suffolk
Dr. Eric C. Schelin	Richmond
Dr. C. Waldo Scott	Newport News
Dr. Leroy Smith	Richmond
Dr. James W. Todd	Virginia Beach
Dr. Philip C. Trout	Roanoke
Dr. Edwin D. Vaughan	Richmond
*Dr. William E. Waddell	Lexington

School of Cytology.

The Cancer Cytology Center of the Dade County Cancer Institute, an affiliate of the Medical Research Foundation of Dade County in Miami, Florida, has announced its first one-week seminar for physicians to be held at the Institute from January 14th to 19th inclusive. The lecture courses are scheduled from 9 a.m. to 5 p.m. daily during this period. Instruction will be under the supervision of Doctor J. Ernest Ayre, Director of the Institute and its research staff. More than twenty outstanding local and visiting physicians and scientists will compose the faculty.

Interested physicians should direct their inquiries regarding qualifications, registration, fees and other details to the Director of the Dade County Cancer Institute at 1155 North West 14th Street, Miami, Florida. Applications for registration, limited to 35 physicians, will be accepted through January 12th.

*Deceased.

The Institute of Industrial Health

Of the University of Cincinnati will accept applications for a limited number of Fellowships offered to qualified candidates who wish to pursue a graduate course of instruction in preparation for the practice of Industrial Medicine. Any registered physician, who is a graduate of a Class A medical school and who has completed satisfactorily at least two years of training in an hospital accredited by the American Medical Association may apply for a Fellowship in the Institute of Industrial Health. (Service in the Armed Forces or private practice may be substituted for one year of training.)

The course of instruction consists of a two-year period of intense training in Industrial Medicine, followed by one year of practical experience under adequate supervision in industry. Candidates who complete satisfactorily the course of study will be awarded the degree of Doctor of Industrial Medicine.

During the first two years, the stipends for the Fellowship vary, in accordance with the marital status of the individual, from $2,100 to $3,000. In the third year the candidate will be compensated for his service by the industry in which he is completing his training. Requests for additional information should be addressed to the Institute of Industrial Health, College of Medicine, Eden and Bethesda, Cincinnati 19, Ohio.

The Southern Section of the American Laryngological, Rhinological and Otological Society

Will meet in Atlanta at the Academy of Medicine, January 14. This will be a one-day meeting and there will be six speakers, each of whom is prominent in his field:

Dr. John E. Bordley, Baltimore—The Problem of the Preschool Deaf Child—The Otologist's Role in Diagnosing His Deafness and Supervising His Rehabilitation

Dr. Samuel L. Fox, Baltimore—Bleeding Following Tonsillectomy

Dr. V. K. Hart and Dr. William Pitts, Charlotte —The Diagnosis and Treatment of Acute Subdural Abscess Secondary to Frontal Sinusitis

Dr. Julius W. McCall, Cleveland—Cancer of the Larynx

Dr. Harry Rosenwasser, New York—Glomus Jugularis Tumor of the Middle Ear

Dr. Joseph A. Sullivan, Toronto—Recent Advances in the Treatment of Facial Paralysis and Bell's Palsy

All members of the Medical Professional are cordially invited to this meeting. There is *no* registration fee.

The Fifth American Congress on Obstetrics and Gynecology

Will be held in Cincinnati, March 31 through April 4, 1952, at the Netherland Plaza Hotel.

Sponsored by the American Committee on Maternal Welfare, the Congress will feature a comprehensive five-day scientific program covering the medical, nursing and public health aspects of the maternal care team. There also will be technical and scientific exhibits, and several demonstrations of special interest, as well as several panel discussions.

Discussions will follow the presentation of papers. Arrangements have been made for submittal of written questions, either by mail or at the Congress.

Highlight of the public health program will be an initial report on the results of a new study of 10,000 neonatal deaths from 1936-49 by the Chicago Health Department. An afternoon program will analyze the causes of the infants' deaths and recommendations on how these could be reduced further.

The nursing program will feature meetings giving a "Preview of Tomorrow's Obstetrics."

Congress registration fees are $5.00 for members and $10.00 for non-members. Further information, registration or reservations can be obtained by writing to Mr. Donald F. Richardson, Executive Secretary, American Committee on Maternal Welfare, 116 South Michigan, Chicago 3, Illinois.

Walter Reed Volunteers.

Using the tentative name of the "Guinea Pig Club" a group of scientists met in the headquarters of the National Society for Medical Research to formulate an organization which will be comprised of human "Guinea Pigs".

The meeting was held on the day of the 100th anniversary of the birth of Walter Reed (September 13th), and representatives from each medical school in Chicago and from hospital and research institutions were in attendance.

The purpose of the organization is not for the

recruitment of volunteers but for education. The plans are to formally organize chapters in each medical center throughout the country. Membership will be comprised of medical scientists, students and technicians who have ever served in any way as "guinea pig" or human test material, and other medical volunteers. Plans include meetings at which papers will be presented describing experiences and results of "guinea pig" service, and the presentation of citations or some form of honorary recognition for outstanding volunteer service.

As a result of the meeting, the name "Walter Reed Volunteers" was decided upon. An organization committee composed of Dr. Anton J. Carlson as Chairman, Dr. Max Sadove as Secretary, Dr. Andrew C. Ivy, Dr. Andrew H. Ryan, Dr. W. W. Bauer, and John Sembower was appointed.

The group would appreciate suggestions from those interested as to policies, program, organization plan, etc. Please send any such suggestions or comments to the National Society for Medical Research, 185 North Wabash Avenue, Chicago 1, Illinois.

Auto Accident Information Wanted—

If the doctor who accidentally backed his auto into side of my black Olds. 88 Sedan, on morning of October 10th, in near front of Cavalier Hotel, at Virginia Beach meeting, will kindly advise me his Insurance Carrier, same will be appreciated. Address Dr. W. B. Barton, Stonega, Virginia. (*Adv.*)

Office Space for Rent.

Doctor's or Dentist's office available immediately, corner Harrison and Franklin Streets, Richmond. Call 5-4397. (*Adv.*)

OBITUARIES

Dr. George Wythe Booth,

Prominent physician of Rocky Mount and Franklin County, died at a Roanoke hospital on October 25, after a long illness. He was sixty-five years of age and graduated from the Medical College of Virginia in 1925. He had practiced at Rocky Mount for about twenty-five years and had been a member of The Medical Society of Virginia since 1927. He became a member of the Roanoke Academy of Medicine in 1934 and was also a fellow of the American Medical Association. Besides his wife, he is survived by a son and a daughter.

Dr. Joseph Clary Blanton,

Who practiced in Henrico County for many years, died at his home in Richmond, November 12. He was eighty-three years of age and a graduate of the Medical College of Virginia in 1900. He joined The Medical Society of Virginia the following year and was made a Life Member at the 1950 meeting. He retired from active practice in 1943 and had made his home in the city since that time. His wife survives him.

Dr. Luther Jerrell Head,

Retired physician of Caroline County, died at a Richmond Hospital November 8, at the age of 85. He was a graduate of the former University College of Medicine, Richmond, in 1903, and practiced until retirement near Penola. He was a member of the County School Board for over thirty years. He was formerly a member of The Medical Society of Virginia. Several children survive him.

Resolutions on Dr. Morrison.

The following Resolutions of Sympathy were adopted by the Lynchburg Academy of Medicine at the October 15th meeting on the death of Dr. Frederick M. Morrison.

The Lynchburg Academy of Medicine of which Dr. Frederick M. Morrison has been an honored member, desires to place on record this tribute as an expression of esteem and respect.

Whereas Dr. Frederick M. Morrison has been a much beloved physician in the science of healing in Lynchburg and

Whereas our association both professional and social has been one of mutual admiration and respect, we, the members of the Lynchburg Academy of Medicine wish to recognize in writing for future posterity the high order of his physicianship while on this earth and the fineness of his character.

It is our desire to spread a copy of these resolutions on the minutes of our society and that a copy be sent to his family and to the Virginia Medical Monthly.

Respectfully submitted,
J. G. Holland
Holcombe H. Hurt
H. R. Coleman

VIRGINIA MEDICAL MONTHLY

INDEX TO VOLUME LXXVIII

January 1951—December 1951, inclusive

January	— pages 1- 56	May	— pages 223-280	September	— pages 455-524
February	— pages 57-110	June	— pages 281-334	October	— pages 525-580
March	— pages 111-166	July	— pages 335-392	November	— pages 581-634
April	— pages 167-222	August	— pages 393-454	December	— pages 635-689

AUTHOR INDEX

Apperly, F. L., 357, 602
Bailey, Kenneth, 128
Barrett, J. E., 598
Beaven, C. W., 546
Becker, Ernest, 539
Becker, Walter F., 129
Benedict, Lois, 1
Berblinger, Klaus W., 259
Blackford, L. Minor, 581
Bloom, Nathan, 84, 364
Boyce, William H., 176
Boyd, John O., Jr., 647
Bradley, Chester D., 433
Brick, Harry, 423
Buis, L. James, 465
Butterworth, R. D., 551
Carmines, Fay A., 123
Carpenter, Earnest B., 123, 603
Chapin, Will E., 91
Chapman, George A., 236
Chitwood, W. R., 132
Cole, Dean B., 465
Coleman, Frank Philip, 169
Corcoran, David B., 32
Cosgrove, Robert S., 417
Cosgrove, Samuel A., 417
Creecy, A. A., 546, 642
Daniel, Frank D., 289
Davis, John Staige, Jr., 335
Delaney, Martin D., 299
Delaney, William M., 299
Dodson, A. I., 9
Donnelly, Richard C., 24
Eastlack, W. L., 255
Edmonds, Albert M., 128
Edwards, Thomas S., 190
Engh, O. Anderson, 337
Fitz-Hugh, G. S., 121
Flippin, Harrison F., 223
Friedenberg, Milton D., 283
Frohbose, William J., 250
Funkhouser, J. B., 598
Gatewood, Wm. Lawrence, 261
Gilbert, Donald, 9
Groseclose, Eugene S., 113
Guerrant, John L., 527
Guss, John H., 359
Hagood, W. J., 255
Hancock, H. J., 169
Hankins, George G., 38
Harrell, C. L., 50, 57, 105, 159, 584
Harrell, D. L., 598
Hellebrandt, F. A., 20
Higgins, William H., Jr., 412
Hoff, Ebbe Curtis, 635
Hogg, Paul, 546
Horsley, Guy W., 226
Hundley, John T. T., 682
Hurdle, T. G., 642
Hutcheson, J. Morrison, 459
Jacobs, Frederick M., 665
Jones, Claiborne T., 71
Jones, E. Palmer, 430
Kaiser, John B., 136
Kay, William, 141, 197, 262, 310, 368, 474, 559, 611
Kendig, Edwin L., 128
King, M. Kirwan, 468
Klingman, W. O., 598
Kruger, Alfred L., 417
LaFratta, Carl, 554
Leigh, R., 598
Levin, Gershon J., 652
Massey, John W., Jr., 28
May, Virgil R., 77
McCall, Marsh, 525
McCue, Howard, Jr., 111
McGovern, Francis Henry, 74
McGuire, Johnson, 281
Menk, Karl F., 293
Merrell, Theodore C., 437
Miller, Benjamin, 404
Millman, Milton, 87
Mitchell, Joe E., 293
Moore, C. D., 132
Morton, Charles Bruce, 232
Mulholland, H. B., 190
Nagler, B., 598
Neale, Claude L., 283
Nelson, C. M., 9
Nushan, Harry, 404
Pautler, E. E., Jr., 357
Pembleton, W. E., 430
Pepple, Allen, 590
Phillips, Joseph T., Jr., 194
Pile, Wendell J., 438
Pinckney, M. Morris, 394
Preston, H. Grant, 187
Putney, Charles W., 342
Rader, M. Elizabeth, 590
Ransone, John Taylor, 303
Read, William A., 404
Rennie, J. G., 353
Robertson, Elmer S., 71
Rosenzweig, Abraham L., 28
Rucker, M. Pierce, 181
Sandusky, William R., 64
Shands, Alfred Rives, 455
Snider, George E., 71
Southward, W. R., Jr., 167
Stafford, Frank B., 236
Stevens, John Edgar, 590
Stone, Harvey B., 3
Sullivan, C. Roger, 468
Sutterlin, Frank W., 239
Sutton, Lee E., Jr., 393
Swineford, Oscar, Jr., 399
Taylor, Gervas S., Jr., 123
Todd, James W., 366
Todd, T. C., 246
Toone, Elam, Jr., 84, 539
Troland, Charles E., 349
Tucker, James T., 603
Tucker, Weir M., 57
Vance, Frederick V., 190
Varano, N. R., 642
Vest, Samuel A., 176
Walker, Harry, 141, 197, 262, 310, 368, 474, 559, 611
Wallace, K. K., 32
Weinberg, Arthur, 136
Williams, Armistead D., 535
Williams, Carrington, 13, 637
Williams, John Powell, 28, 539
Wine, Jean F., 590
Wingfield, William L., 539
Wood, William H., Jr., 139
Woodward, F. D., 121

SUBJECT INDEX

ACTH and cortisone, 223; Toxic reactions occurring with — -- — therapy, 283; Some considerations of the physiological effects of — — — in man, 359
Adoption: basic principles as viewed by one agency, 1
Aging, The problem of, 677
Allergy, Food: its application, 87
A.M.A. investment, Your, 209
Amicrobic pyuria, 9
Anemia following Caesarean section treated by splenectomy, Hemolytic, 299
Anesthesia, Vasopressor drugs in spinal, 430
Aneurysm, Rupture of aortic, 197
Antabus, The use of: a warning, 635
Antihistaminic drugs, The toxicity of: case report and discussion, 132; Observations on the — —, 399
Anus of functional origin, Stenosis of the, 232
Arthritis, Evaluation of certain new therapeutic measures in the management of rheumatoid, 539
Aureomycin in treatment of tularemia, Effectiveness of: report of two cases, 71
Auxiliary president's pin, 571
Back pain, Spinal fusion in the treatment of low: some clinical observations, 551

Bibliotheca
Albucasis, 49
Clarke, Sir Charles Mansfield, 416
Emmet, Thomas Addis, 464
Flack, Isaac Harvey, 646
Hill, Sir John, 526
Palfin, Jean, 81
Sacombe, Jean Francois, 120
Varandaeus, Joh., 231

Birth, A study on the correlation between dementia praecox and the month of birth, 438
Blood pressure determinations in children, Technique of, 139
Bone lesions, Laboratory aids in the diagnosis of, 603

Books
Abelmann—Cancer As I See It, 379
Abstract of the Audiology Clinic, 205
American Cancer Society—Manual of Tumor Nomenclature and Coding, 621
A.M.A.—Handbook of Nutrition, 572
Apperly—Patterns of Disease, 621
Bray—Clinical Laboratory Methods, 572
Brown—Technical Methods for the Technicians, 621
Chatton-Margen-Brainerd—Handbook of Medical Management, 443
Cleckley—The Mask of Sanity, 45
Consolazio-Johnson-Marek—Metabolic Methods, 621
Davis—Let's Cook It Right, 621; Let's Have Healthy Children, 621
DeSanctis-Varga—Handbook of Pediatric Medical Emergencies, 573
Dickinson-Gamble—Human Sterilization, 44
Fischer—Principles of General Psychopathology, 99
Gibson—Physicians to the World: Life of General William C. Gorgas, 147
Goodrich—Natural Childbirth, 99
Grimes—When Minds Go Wrong, 99
Grant-Estes—Spatial Vector Electrocardiography, 621
Gray—The Changing Years, 621
Gross et als—Modern Foot Therapy, 379
Harper—Review of Physiological Chemistry, 621
Harris-Kujawski—Vitamin E, 379
Kahn—Master Your Mind, 621
Kampmeier—Physical Examination in Health and Disease, 444
Kupper—Physicians' and Nurses' Concise Medical Encyclopaedia, 45
Marquardt—Paul Ehrlich, 443
McCurdy—The Rhesus Danger: Its Medical, Moral and Legal Aspects, 99
Meredith—The Science of Health, 205
Moorman-Christian—Pioneer Doctor, 573
Ricci—Development of Gynecological Surgery and Instruments, 98; The Cystocele in America, 98; Diagnosis in Gynecology, 99; Aetios of Amida, 148
Slaughter—Immortal Magyar, 45
Thoms-Roth-Linton — Understanding Natural Childbirth, 273
U. S. Naval Medical School—Color Atlas of Pathology, 325
Wolf—Philosophy for the Common Man, 572

Breast, Carcinoma of the: radical mastectomy, oophorectomy and hormone therapy, 226
Bronchiectasis, The Complications of, 194
Caesarean section treated by splenectomy, Hemolytic anemia following, 299
Cancer Committee case reports, 40-A; 90-A; 139-A; 211-A; 258-A; 298-A; 378-A; 422-A; 464-A; 569-A; 602-A; 655-A
Carcinoma of the cervix, Pelvic evisceration for advanced persistent or recurrent, 136; — — — breast: radical mastectomy, oophorectomy and hormone therapy, 226; The diagnosis of — of the colon and rectum, 637
Cardiac patient, The evaluation of the, 535
Cardiovascular disease, The problem of, 111
Cerebral palsy, Trends in the management of, 20
Cervix, Pelvic evisceration for advanced, persistent or recurrent carcinoma of the, 136
Chest, Diagnostic promblems of the, 465
Child, Treatment of the, 96; — — — — emotionally disturbed, 204
Childhood, Hypersplenism in early, 293
Children, Urological problems in infants and, 546
Cholelithiasis not recognized by cholecystogram, 652
Cirrhosis, Biliary, 310

Colleges
Medical College of Virginia, 386
University of Virginia, Department of Medicine, 388

Colon conditions, Surgical aspects of certain non-malignant: chronic non-specific ulcerative colitis, diverticulitis, megacolon, 3; The diagnosis of carcinoma of the —, 637
Commitment procedures for mentally ill, 145
Communicable disease morbidity in Virginia from 1920-1950, 100
Cortisone and ACTH, 223; Toxic reactions occurring with — — — therapy, 283; Some considerations of the psysiological effects of — — — in man, 359
Cortone therapy in acute gout, 84
Craven, Dr. John J.: physician to Jefferson Davis, 433
Crippled children, The Nemours Foundation and its program for, 455
Cystadenomas of the pancreas, 468

Dacryocystitis, Rhinological aspects of chronic, 74
Davis, Dr. Craven as physician to Jefferson, 433

Deaths
Bagby, Bathurst B., 454
Barr, William Carlisle, 166
Benmosche, Moses, 580
Bennett, Carroll G., 524
Blanton, Joseph Clary, 689
Booth, George Wythe, 689
Bowles, Eugene K., 392
Broaddus, John Garnett, 633
Campbell, Hawes, Jr., 56
Clendenen, Charles Milton, 55
Driver, Wilson Eliot, 634
Dudley, Gustave Beauregard, 280
Dunkley, David A., 166
Easley, Henry O., 280
Face, Edward Gill, 222
Fowlkes, William Burton, 56
Fravel, Roy C., 110
Grove, Charles Clifford, 166
Head, Luther Jerrell, 689
Jackson, Wycliffe Charles, 633
Johnson Henry Satterwhite, 329, 634
Jones, Robert Rivers, 166
Jones, William Russell, 280
King, John C., 454
Knight, Thomas E., 580
Kolipinski, Louis Xavier, 280
Lawson, George McLean, 634
Mason-Grigg, Ruth, 110
McLemore, William Thomas, 633
Miller, James W., 56
Morrison, Frederick McCulloch, 524, 689
Newcomb, William Bradford, 524, 634
Phipps, Rufus L., 454
Potts, Julian, 166
Price, Susan A., 56
Reams, Bernard Lawrence, 166
Robinson, Claude R., 56
Rogers, Herbert Wilson, 334
Rolston, Theron Rice, 634
Roper, Lonsdale J., 384
Sager, William Warren, 580
Scott, Lockburn B., 392
Torrence, George Abbitt, 110
Vaden, Marshall T., 524
Waddell, William Edgar, 633
Walker, Rowland H., Jr., 56
Walton, James H., 524
White, Estridge Peterson, 334
Whitehead, Lawther Jackson, 222
Whitmore, Walter S., 524

Defense, The doctor and civil, 167
Dementia praecox and the month of birth, A study of the correlation between, 438
Diphtheria, 620
Diverticulitis, Surgical aspects of, 3
Doctor and civil defense, The, 167
Duodenum, Treatment of benign lesions of the stomach and, 13

Editorials
Abel, John Jacob, 101
Biological warfare, 102
Blood banks, 275
Cancer prevention, Routine cytological examination of vaginal smears in, 157
Carcinoma of the uterine cervix, International classification of the stages of, 47
Christian, Henry Asbury, 576
Cushing, Harvey Williams, 515
Diabetes detection drive, 623
Education, The cost of medical, 214; What's wrong with modern medical —, 624
Edwards, Agnes V., 445
Examiners, Our State Board of Medical, 624
Federal medical activities, Hoover Commission on, 447
Halsted, William S., 211
Hippocratic oath, 382
History taking, 680
Hoover Commission on Federal medical activities, 447
Hundley, John Trible Thomas, 622
Johnson, Henry Satterwhite, 329
Maternal mortality, A new low in, 48
Medical Society of Virginia, The annual meeting at Virginia Beach, 518, 679
Miller, Joseph L., 380
Minot, George Richards, 46
Moore. Oren, 681
Reed, Walter, One hundredth anniversary of birth of, 517
Roper, Lonsdale J., 384
Schools, Financial aid from A.M.A. to medical, 103
"Springs" in Virginia, The rise and fall of the, 327
Stiles, Charles Wardell, 154
Vignes, Dr. Henri, 383
Wife, The doctor's, 574
Williams, Ennion Gifford, 326
Williams, John Whitridge, 274
Writing, Careless, 157

Education Foundation, American Medical, 209
Emotionally disturbed child, Treatment of the, 204
Endaural approach for surgery of the temporal bone, 121
Endometrial hyperplasia in elderly women with hepatic cirrhosis, 602
Epilepsy, a reasonable problem, 57; Treatment of —: study of 11 consecutive cases, 303; Treatment of — with mesantoin or hydantal, 423; An evaluation of the — program in Virginia, 598
Family care for State hospital patients, 270

Floral Eponyms
Achilles, 457
Alstroemeria, 216
Ambrosinia, 104
Carpenteria, 336
Cinchona, 31
Forestiera, 317
Monarda, 636
Nicotiana, 168
Rafflesia, 225
Solandra, 158
Tradescantia, 329
Vallisneria, 403

Food allergy: its application, 87
Foreign body from the heart, Removal of a migratory intravascular, 65
Fractures of the hip, Early functional results in: comparison of types of treatment, 123; Treatment of — by the general practitioner, 337
Galactemia, 368
Gastrectomy versus subphrenic vagotomy, 353
Gastric mucosa, Prolapsing, 32
Genitourinary malformations, Rehabilitation of, 176
Gout, 335; Cortone therapy in acute —, 84
Guidance center and the community, The, 442
Headaches, The diagnosis and treatment of the migraine syndrome and related vascular, 412
Heart, Removal of a migratory intravascular foreign body from the, 64; Advances in — disease in this half century, 281; The need for — specialists, 581
Health commissioner, New State, 578
Hematuria as a manifestation of sickle cell disease, 642
Hemorrhage, The treatment of spontaneous subarachnoid, 349
Hepatic cirrhosis, Endometrial hyperplasia in elderly women with, 602
Hip, Early functional results in fractures of the: comparison of types of treatment, 123

Hippocrates, The oath of, 437
Histaminic drugs, The toxicity of anti-, 132
Hormone therapy for carcinoma of the breast, 226
Hospital, The place of the general practitioner in the general, 647
Hydantal, Treatment of epilepsy with mesantoin or, 423
Hypersplenism in infancy and early childhood: report of three cases, 293
Industrial hygiene, The physician and, 202
Infancy and early childhood, Hypersplenism in, 293
Infant in private practice, Care of the premature, 128
Infants and children, Urological problems in, 546
Infarction, Factors concerned with prognosis of acute myocardial, 525
Infertility, Some aspects of human, 239
Insulin, Experiences with new types of, 190
Intestinal obstruction, 342
Intestine, Mesenteric vascular occlusion with successful resection of the small, 366
Intracranial neoplasms in Virginia, Incidence of, 357
Laboratory aids in the diagnosis of bone lesions, 603
Laxatives, Habitual use of, 232
L. E. cell, The: A phenomenon of diagnostic value in acute disseminated lupus erythematosis, 590
Lung resection for tuberculosis, 169; Chronic — failure, 527
Lupus erythematosis, A phenomenon of diagnostic value in acute disseminated: the L. E. cell, 590
Malaria among returning Korean veterans, Growing incidence of, 471
Mastectomy for cancer of the breast, Radical, 226
Medical Society of Virginia: Proceedings of 1950 annual meeting, 92; Post-convention Council minutes, 95; Council minutes, 150; Report of delegates to A.M.A., 152; Committees, 159; Auditor's report, 206; Council minutes, 320; Venereal Disease Control Committee, 323; List of Presidents, 478; Program, 480; Scientific exhibits, 485; Technical exhibits, 486; Committee reports for 1951, 490; Delegates to 1951 meeting, 512; Woman's Auxiliary program, 514; Report of delegates to A.M.A., 618; Proceedings 1951 annual meeting, 660; Post-convention Council minutes, 668; Fifty Year Club awards, 669; Committees, 669; In Memoriam, 671; Auditor's report, 671; Public relations, 682
Medical Society of Virginia and its functions, A brief history of The, 584
Medicine in the Old Dominion, Early, 181
Megacolon, Surgical aspects of, 3
Meningitis, Tuberculous, 262
Mental hospital and clinic statistics, State, 42; The family approach to — health, 378; The — guidance clinic and the community, 442; An experiment in traveling — hygiene clinics, 472; What happens to — hospital patients, 619; — clinic procedure, 675
Mesantoin or hydantal, Treatment of epilepsy with, 423
Mesenteric vascular occlusion with successful resection of the small intestine: case report, 366
Migraine syndrome and related vascular headaches, The diagnosis and treatment of the, 412
Morbidity reporting, The physician and, 319
Mucosa, Prolapsing gastric, 32
Myocardial infarction, Factors concerned with propaganda of acute, 525
Nemours Foundation and its program for crippled children, 455
Nephrosis, Lower nephron, 394
Neoplasms in Virginia, Incidence of intracranial, 357
Nephron nephrosis, 559
Nose, The psychological reaction to the unaesthetic, 261
Obstetrical care, Recent advances in, 113
Obstetrics by general practitioners in a small general hospital, A survey of, 289
Ocular torticollis: report of a case, 187
Old Dominion, Early medicine in the, 181
Oophorectomy for carcinoma of the breast, 226
Ovarian cyst, Strangulated, 141
Palsy, Trends in management of cerebral, 20
Pancreas, Cystadenomas of the, 468
Pelvectomy, Hemi-; sacro-iliac disarticulation, 129
Periarteritis nodosa, 611
Poliomyelitis, 393; Development of immunity to —, 41; —: review of 53 acute cases from orthopedic service at University of Missouri Hospital in 1949, 77
Practitioner in the general hospital, The place of the general, 647
Practitioners in a small general hospital, A survey of obstetrics by general, 289
Pregnancy and tuberculosis, 59; 417; Some new concepts on the treatment of bleeding in the third trimester of —, 246; — in a bicornate uterus complicated by the incarcerated non-pregnant horn, 255
Premature infant in private practice, The care of the, 128
Presidents of The Medical Society of Virginia, 478
"Problem Child", Treatment of the, 96
Psychological reaction to the unaesthetic nose, 261
Psychotherapy, Medical, 259
Public Relations Conference, 96; — health progress of fourteen years, 441
Pulmonary tuberculosis and the doctor in practice, 554
Pyuria, Amicrobic, 9
Rabies problem, The, 376
Recreational therapy at Lynchburg State Colony, 569
Rectum, The diagnosis of carcinoma of the, 637
Reed, Dr. Walter: the governor's letter, 458; The 100th anniversary of — — —, 577

Rehabilitation of genitourinary malformations, 176
Rheumatoid arthritis, Evaluation of certain new therapeutic measures in the management of, 539
Rhinological aspects of chronic dacryocystitis, 74
Sacro-iliac disarticulation (hemipelvectomy): case report, 129
Scleroderma, The visceral lesions of, 459
Selective service, Doctors advise, 377
Septicemia with myocardial abscesses, Staphylococcus, 28
Serodiagnosis evaluation study, 567
Serologic tests after treatment, Facts about interpretation of, 324
Sickle cell disease, Hematuria as a manifestation of, 642
Smallpox, An alert against, 269

Societies
Alexandria Medical Society, 161, 331
American Academy of Occupational Medicine, 221
American Association, Obstetricians, Gynecologists and Abdominal Surgeons, 579
American College Chest Physicians, 451
American College of Surgeons, 687
American Gynecological Society, 334
American Medical Association, 451
Augusta County Medical Association, 519
Danville-Pittsylvania Academy of Medicine, 161
Fairfax County Medical Society, 628
Fauquier County Medical Society, 519
Fourth District Medical Society, 106
James River Medical Society, 217
Lynchburg Academy of Medicine, 106, 278
Medical College of Virginia Alumni Association, 389
Medical Society of Northern Virginia, 106
Medical Society of Virginia: 1950 annual meeting, 92; 206; 628; 1951 annual meeting,
Neuropsychiatric Society of Virginia, 332
Norfolk County Medical Society, 277, 627
Northampton County Medical Society, 106
Northern Neck Medical Association, 51, 682
Ophthalmological and Otolaryngological Section, Richmond Academy of Medicine, 164
Petersburg Medical Faculty, 53
Piedmont Proctologic Society, 578
Richmond Academy of General Practice, 219
Richmond Academy of Medicine, 51
Richmond Board of Health, 631
Roanoke Academy of Medicine, 628
Rockbridge County Medical Society, 628
Rockingham County Medical Society, 277
Seaboard Medical Association of Virginia and North Carolina, 162
Smyth County Medical Society. 107
Southern Psychiatric Association, 53
Southern Surgical Association, 219
Southwestern Virginia Medical Society, 683
Stuart Circle Hospital Ex-Interns Association, 54
Tazewell County Medical Society, 106
Tidewater Ophthalmological and Otolaryngological Society, 390
Tri-State Medical Association of Virginia and the Carolinas, 219
Virginia Academy of General Practice, 683
Virginia Section, American College of Physicians, 684
Virginia Diabetes Association, 684
Virginia Obstetrical and Gynecological Society, 684
Virginia Orthopedic Society, 684
Virginia Pediatric Society, 279, 684
Virginia Radiological Society, 54, 333, 684
Virginia Society Ophthalmology and Otolaryngology, 332
Virginia Society for Pathology and Laboratory Medicine, 334, 391
Virginia State Board of Medical Examiners, 161, 453, 626, 685
Virginia, Urological Society, 684
Warwick County Medical Society, 51
Washington County Medical Society, 218
Williamsburg-James City County Medical Society, 217
Wise County Medical Society, 217

Spinal fusion in the treatment of low back pain: some clinical observations, 551; Vasopressor drugs in — anesthesia, 430
Staphylococcus septicemia with myocardial abscesses, 28
Sterilization in Virginia, Liability of physician for, 24
Stethoscope, The: 100 years ago, 523
Stomach and duodenum, Treatment of benign lesions of, 13; Benign lesions of the —, 404
Subarachnoid hemorrhage, The treatment of spontaneous, 349
Sympatholytic drugs in peripheral vascular disease, 364
Syphilitic patients at Central State Hospital, Care of, 318
Temporal bone, Endaural approach for surgery of the, 121
Testicle, Torsion of the, 250
Torticollis, Ocular: report of a case, 187
Tuberculosis and pregnancy, 59; 417; Present trends of collapse therapy in —, 236; Lung resection for —, 169; Pulmonary — and the doctor in practice, 554
Tularemia, Effectiveness of aureomycin in treatment of, 71
Ulcerative colitis, Surgical aspects of chronic non-specific, 3
Urological problems in infants and children, 546
Uterus complicated by the incarcerated non-pregnant horn, Pregnancy in a bicornate, 255
Vagotomy versus gastrectomy, Subphrenic, 353
Vascular disease, Sympatholytic drugs in, 364
Vasopressor drugs in spinal anesthesia, 430
Virginia, Early medicine in, 181
Virginia Peninsula, Short tour of the, 38
Visceral lesions of scleroderma, The, 459
Williams, Dr. Ennion G.: a Virginia historian, 144
World that works, A, 91

Medical Society of Virginia Cancer Committee

Chairman, George Cooper, Jr., M. D.

Medical School Building, University, Virginia

Reprints of this and preceeding Bulletins may be obtained from this office

January 1, 1951

Case Reports

A 45 year old woman passed both bright and dark blood by bowel intermittently for 18 months. During this time, she was treated by two doctors for hemorrhoids. One of the doctors accepted the hemorrhoids as the cause of bleeding after visual inspection of the anus, the other also did a digital rectal examination.

At the end of the 18 months, she experienced violent low abdominal pain and fresh rectal bleeding. The abdomen was explored and the sigmoid was found intussuscepted into the rectum. The intussusception was reduced. After the operation, the pain was relieved but the rectal bleeding continued.

She was then referred to another hospital where, on digital rectal, only old hemorrhoidal tags were found. At proctoscopy, fresh blood was seen coming down from above the limit of proctoscopic visualization. X-ray examination by means of a barium enema demonstrated a polypoid tumor in the upper sigmoid. That portion of the colon, including a wide margin on either side of the tumor, was resected together with its mesocolon which contained several enlarged nodes. There was no macroscopic evidence of tumor beyond the regional nodes. The pathological study of the tumor showed a benign polyp which had undergone malignant degeneration. There were metastases in a few of the lymph nodes.

Comment: 1. Even though actively bleeding hemorrhoids are found, they must not be accepted as the sole cause of rectal hemorrhage. A full investigation must still be conducted to rule out the presence of additional bleeding points higher up.

2. The investigation must include a digital rectal examination (about 40 per cent of large bowel tumors occur in reach of the examining finger), proctoscopic examination (another 35 per cent, approximately, occur within the range of proctoscopic vision), and an X-ray study of the colon with contrast media (about 25 per cent of large bowel tumors are beyond proctoscopic visualization). The discovery of a possible source of bleeding by any one of these means is no reason to omit either of the other two procedures. Multiple tumors of the colon are not rare and multiple polyps are found more frequently than single ones.

3. Intussusception in the large bowel of an adult, except at the ileocecal junction, should be presumed to be due to the presence of a tumor and is indication for resection.

4. In the above case, correct initial handling would probably have resulted in discovery of the polyp before malignant degeneration had taken place. Surgical intervention at that point would have afforded a vastly improved prognosis. Correct surgical handling at the first abdominal exploration would have avoided the necessity for the second.

Medical Society of Virginia Cancer Committee

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February, 1951

Case Reports

A 58 year old man had suffered from asthmatic bronchitis and emphysema for many years, during which time the chest had been x-rayed repeatedly. When he was 56, the roentgenograms for the first time showed a small infiltration in the apex of the right lower lobe. Though tubercle bacilli could not be recovered from the sputum, he was admitted to a tuberculosis sanatorium. Serial x-ray studies demonstrated slow growth of the infiltration during the two year period. The sputum remained negative for tubercle bacilli and there was a steady loss of weight. He was finally referred to a hospital where tumor cells were discovered in the sputum and a bronchoscopic biopsy revealed carcinoma. At exploratory thoracotomy, the lesion appeared confined to the one lobe. A pneumonectomy was done, and the patient has remained well almost two years.

A 56 year old woman was not so fortunate. Her initial complaint was acute right subdeltoid pain. X-ray examination of the shoulder was negative. Chest x-rays were also reported negative, but on reviewing them later, a small area of infiltration in the right subapical region was discovered. At any rate, the first clinical impression was acute subdeltoid bursitis, for which the usual treatment, including roentgen therapy, was administered. The subdeltoid pain fluctuated for the next three months, after which the clinical picture was altered by the appearance of cough, hemoptysis, and weight loss. A second roentgen examination of the chest revealed partial atelectasis of the right upper lobe and a right hilar mass. Papanicolaou smears of the sputum and bronchoscopic biopsy were positive for carcinoma. Exploratory thoracotomy was performed at once, but the pulmonary artery was so involved in the hilar tumor that pneumonectomy was impossible. The patient died a few months later.

Comment: 1. Roentgen demonstration of a pulmonary abnormality, the cause of which is not immediately discovered, makes bronchogenic carcinoma the foremost diagnostic consideration. The human and economic waste of having the first patient spend two years in a tuberculosis sanatorium was due to failure (a) to think of cancer as a diagnostic possibility and (b) to reconsider the initial clinical impression.

2. The failure of the physicians involved in the second case to detect the obscure finding in the first chest x-rays cannot be justly criticized. Every honest physician will admit to similar oversights. The case is reported lest the first history, in which an operable lesion was found after a two year delay, give a false impression of the average rate of spread of pulmonary cancer. Usually the physician has only a very few weeks in which to arrive at the correct diagnosis if he is to give the thoracic surgeon a chance to save his patient's life.

Medical Society of Virginia Cancer Committee

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Medical School Building, University, Virginia

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March 1, 1951

Case Reports

A sixty year old woman, nine years postmenopausal, noticed a trace of blood tinged vaginal discharge. She at once sought the advice of her family physician. He did a pelvic examination and found a small, shallow cervical erosion. The woman inquired about the possibility of cancer. The doctor told her that the ulcer had none of the characteristics of cancer, that therefore she assuredly did not have cancer, and he then cauterized the ulcer. Four months later there was a little more spotting. This time, the patient consulted another physician. On pelvic examination, he found that the ulcer had either persisted or recurred. He took a biopsy which was reported "epidermoid carcinoma of the cervix, grade 2." There was still no evidence of extension beyond the cervix. Roentgen and radium therapy were given promptly, and the patient has a very hopeful prognosis.

Comment: 1. Postmenopausal bleeding should be considered as presumptive evidence of cervical or endometrial carcinoma. These possibilities must be ruled out before treatment is planned.

2. Cervical lesions should not be cauterized until malignancy has been ruled out by satisfactory biopsy. Pathological study of *adequate* biopsy material is the only way to rule out or diagnose carcinoma. Inspection and palpation, as illustrated by the above case history, are completely unreliable. When the source of bleeding is above the cervix, dilatation and curettage should be performed to obtain endometrial specimens for pathological study. Persistent lesions should be re-biopsied, even though the first specimen is reported benign. Whenever the pathologist is in doubt about a specimen, he should be promptly supplied with additional tissue.

3. With the establishment of the pathological service of the Division of Cancer Control, State Health Department, there is no practical or economic reason to omit biopsy. The service is available to every physician in the State for any of his patients.

4. In the above case, cauterization of the cervical erosion without biopsy was wrong handling. The first physician failed to make the diagnosis, gave his patient incorrect treatment and advice, and caused a four months' delay in the discovery and treatment of a cervical carcinoma—all because he failed to take a biopsy.

Medical Society of Virginia Cancer Committee

Chairman, George Cooper, Jr., M. D.

Medical School Building, University, Virginia

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April 1, 1951

Case Reports

Case 1. Several years ago an elderly man presented himself with a small epithelioma at the left angle of the nose. Radium was applied and the patient was specifically informed that response to treatment would not be immediate and that he should return in one month for a check-up.

Three months later he came in with a handkerchief across his face and said, "Doctor, I don't blame you at all for what has happened to me, but when I went home my neighbors said that radium would not do me any good and that I should go to see Doctor ———— who had a Cancer Paste that would take it off."

At this point he removed the handkerchief and exposed a gaping hole replacing the left nostril and cheek and extending almost to the base of the skull. Three months later, he died of meningitis.

Case 2. A 53 year old woman who had passed the menopause five years before complained to her physician that she had been spotting for eight months. Without even doing a pelvic examination, he prescribed ergotrate. She continued spotting for another four months, then suffered a profuse vaginal hemorrhage. The same doctor was called in, and again he did nothing except prescribe ergotrate. After six more months of spotting, she went to another physician. He did a pelvic examination and found a huge fungating tumor of the cervix with vaginal extension and a frozen pelvis. The biopsy report was carcinoma of the cervix, grade 3. Despite radium and roentgen therapy, the patient died nine months later with extensive metastases and urinary tract infection.

Comment: Although the first patient was mistreated by a quack and the second by a licensed physician, the parallel between the methods of handling the two cases is striking. The quack treated the patient by a method unrelated to the disease. The licensed physician did exactly the same thing. It might even be said that the quack was morally better off than the physician because the quack had at least a verbal report of a diagnosis whereas the physician made no attempt to reach one. Incidentally, the quack has had legal action brought against him for practicing medicine without a license.

If the second case history represented a lone incident, its presentation might be considered in poor taste. Unfortunately, similar histories are recorded in our Tumor Clinics in significant numbers. Your Committee feels that the medical profession should be informed.

Medical Society of Virginia Cancer Committee

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Medical School Building, University, Virginia

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May, 1951

Case Reports

Case 1. A 45 year old white woman, after a normal period, began spotting irregularly. She had no more periods but continued spotting for six months. She then consulted a physician who, without doing a pelvic examination, told her that she was passing through the menopause and prescribed medication (probably female sex hormones). For eighteen months, the treatment and symptoms continued unchanged, and no pelvic examination was done. Finally the patient had a rather severe hemorrhage. Frightened, she went to another doctor who found a friable, fungating growth replacing the cervix, vaginal extension, and a frozen pelvis. A biopsy of the cervix was reported as showing carcinoma. In spite of a good immediate response to X-ray therapy and radium, the prognosis is, of course, very poor.

Case 2. While the above patient was still under treatment, a friend of hers, also a woman in her late 40's who had passed the menopause, asked advice concerning a slight leukorrhea of three weeks' duration. Pelvic examination revealed an erosion of the cervix less than one half cm. in diameter. There were no other abnormalities. A biopsy from the edge of the erosion showed carcinoma. Following treatment with X-ray and radium, the cervix appears normal, and the prognosis is excellent.

Comment: The contrast between the performance of these two women and of the first doctor seen by each as striking as the difference in their prognoses — in case 1, extremely poor ,in case 2, very good.

Physicians cannot discover curable cancers of the cervix unless women seek attention promptly for minor disturbances.

Physicians will not discover the true nature of any pelvic complaint unless they approach their task intelligently. A complete, careful pelvic examination including visual inspection of the cervix and biposy of any abnormal area is a minimum standard routine.

Treatment without an established diagnosis is an extremely dangerous procedure, apt to do far more harm than good. Too often, as in case 1, it results in allowing a possibly curable cancer to progress undiagnosed to an incurable stage.

That the excellent handling noted in case 2 is becoming more frequent is demonstrated by the gradually improving survival figures for cancer of the cervix. Persistent improper handling such as was noted in case 1 must be condemned as gross negliglence.

Medical Society of Virginia Cancer Committee

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Medical School Building, University, Virginia

Reprints of this and preceeding Bulletins may be obtained from this office

June 1, 1951

Case Reports

A 54 year old woman who had been conscious of progressive deafness for about two years sought the advice of an otolaryngologist. He inflated the eustachian tubes at periodic intervals for the next seven months. Each time the instrument was introduced into the left tube, there was some bleeding. The deafness continued to progress. The patient noticed and called the attention of the physician to a hard mass in the left mid-anterior cervical chain. At the end of the seven months, the mass was about 6 cm. in diameter and two smaller ones had developed just below it. At this point, the patient visited another doctor who immediately discovered a large tumor in the left nasopharynx invading the eustachian tube and posterior nares. A biopsy from the growth was reported squamous cell carcinoma, grade II. As surgery was considered impractical, palliative radiation was given with good response but the prognosis is hopeless.

Comment: Again we have illustrated the three most common causes of physician responsibility for delayed recognition of cancer:

a. Failure to think of cancer as a diagnostic possibility.
b. Treatment of a condition, the etiology of which has not been determined.
c. Failure to reconsider an initial opinion when the response to treatment is not prompt. Certainly, the bleeding each time an instrument was introduced into the left eustachian tube should have caused the first physician to inspect that area with unusual care, a procedure which would inevitably have led to a much earlier recognition of the correct diagnosis.

In contrast, a 65 year old man was seen recently by another otolaryngologist for routine checkup on the fifth anniversary of a laryngofissure for a small carcinoma of the right cord. The examination was negative. Five years before, the patient had sought advice for hoarseness which had persisted for six weeks after a head cold. With the help of a laryngeal mirror, the physician had discovered the small tumor on that first visit. A biopsy was taken that day, carcinoma was reported, and the laryngofissure was performed four days later.

Cancer **can** be discovered early; it **can** be cured.

Medical Society of Virginia Cancer Committee

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July, 1951

Case Reports

Case 1. A 35 year old woman, who had been aware of vague digestive complaints for some months, developed epigastric pain, nausea, and vomiting. She was hospitalized, and after five days of intravenous feeding, her symptoms were relieved. X-ray examinations of the heart and lungs revealed no abnormalities, but routine blood studies discovered a severe hypochromic anemia. She was treated for anemia, then discharged.

For the next year, her course was one of progressive weakness and fatigue. She suffered intermittently with mid-abdominal pain which was relieved by food. Then another episode of nausea and vomiting prostrated her. She spent seventeen days in a second hospital, and again was treated for anemia.

Two months later, a hard painful mass appeared in the left frontoparietal region. It grew rapidly to a diameter of four cm. She was then admitted to a third hospital, complaining of progressive weakness, mid-abdominal pain, and of the tender mass on her forehead. The previous finding of a severe hypochromic anemia was confirmed, and a gastrointestinal X-ray study, her first, demonstrated a carcinoma involving the stomach from cardia to pylorus. A biopsy of the painful mass on the forehead was reported as showing adenocarcinoma, probably of gastric origin. Palliative radiation relieved the pain in the metastasis but did not cause significant regression, and the abdominal distress was not dramatically improved. The outlook is, of course, hopeless.

Case 2. A 72 year old man was hospitalized for a prostatic resection. The hypertrophy proved benign, the operative result good. During his admission study, a story of recent vague upper abdominal fullness and distress was obtained. When the patient had recovered sufficiently from the prostatic resection, gallbladder and gastric X-ray studies were done. A polypoid tumor two cm. in diameter was demonstrated in the cardia of the stomach. The tumor and a collar of gastric wall was resected. The pathological report was leiomyosarcoma. Three years later, the patient is in excellent condition, with no evidence of recurrence of metastasis.

Comment: 1. As demonstrated by Case 2, even gastric malignancy can be discovered in a stage early enough to permit curative surgery. Defeatism on the part of the physician in his approach to the cancer problem insures only one thing — the defeat of that physician **and his patients** by cancer.

2. The discovery of early, curable cancer depends upon the physician's maintaining a high index of suspicion toward the disease and upon his prompt complete investigation of possible cancer symptomatology. The physician who does not keep cancer ever before him as a diagnostic possibility and who does not routinely use the physical examination and the X-ray, clinical and pathological laboratories, will not discover early cancer. He will be embarrassed and distressed when other physicians find advanced cancer in his referred patients.

3. In Case 1, a patient who was seen repeatedly by a number of physicians and who was actually hospitalized in two different institutions had cancer for well over a year before the diagnosis was made or even suspected. When finally recognized, her disease was hopelessly advanced. An X-ray examination of the stomach, indicated by the patient's symptomatology, would have revealed the real trouble at any time during that long period that she was under medical supervision.

4. Hypochromic anemia is a symptom, not a disease. Its discovery should have led to a careful search for a source of bleeding in the stomach or intestine. The possibility of cancer, as well as of such benign lesions as peptic ulcer, polyp, enteritis, etc., should have been considered.

5. The fact that the patient was a 35 year old woman was no excuse for overlooking a cancer of the stomach. This disease occurs frequently in women and not rarely in young people. Gastric lymphoma is more common in the young than in the elderly.

Medical Society of Virginia Cancer Committee

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August 1, 1951

Case Reports

A 60 year old woman developed a sore throat for which she sought the advice of her family physician. He told her she had a foul ulcer in the left side of her pharynx and prescribed a gargle. She got some relief but it was temporary and after three months, her throat was more painful than ever. Her doctor told her that the ulcer was larger and referred her to an otolaryngologist. He obtained smears from the ulcer which were reported as negative for Vincent's organisms, cultures which showed colonies of streptococci and staphylococci and several Wasserman tests which were reported negative. He treated the bacterial infection with sulfa drugs and penicillin for ten days. Altogether, she was in this doctor's care for about two months. When there was no improvement, he referred the patient to another otolaryngologist. This physician found a necrotic ulcer involving the left anterior pillar, alveolar ridge, buccal mucosa, and hard and soft palates. The lateral surface of the left side of the tongue was indurated, and there was a hard, fixed mat of nodes beneath the angle of the left jaw. A biopsy from the margin of the ulcer was reported "epidermoid carcinoma, transitional cell type." After careful evaluation, the lesion was classified as inoperable. Therefore, palliative radiation was the only treatment given, and the prognosis is hopeless.

Comment: 1. There was a delay of five months between the time when this patient first saw a physician and the time when the diagnosis was reached. The delay was avoidable and the first two physicians involved must accept responsibility for it. If the diagnosis had been made when the patient first sought medical advice, she would probably have been eligible for an attempt at cure by surgery, one or more forms of radiation, or a combination of methods. Even if an attempt at cure had been made and later had proven unsuccessful, active comfortable life would surely have been prolonged.

2. The reason the first two physicians failed to make the correct diagnosis is the usual one — they did not think of cancer as a diagnostic possibility. They considered only various kinds of infection. Even most laymen now are aware of the fact that "a sore that does not heal" is reason to suspect cancer.

3. To practice adequate medicine, every physician must make the biopsy a part of his standard procedure. Failure to do so will inevitably lead the doctor into errors of disastrous consequence.

4. There is no longer any practical or economic reason to omit biopsies. Containers for mailing specimens may be obtained from most druggists and from the State Health Department. Through the State Health Department, physicians may obtain free pathological service for their needy patients from any of the certified pathologists in Virginia or from the Department of Pathology at both medical schools.

5. In the above case, the physicians were presented with a lesion readily accessible to biopsy. The first two physicians did not take a biopsy and therefore did not reach the correct diagnosis. The third physician recognized his opportunity, took a biopsy, and made the diagnosis which should have been made five months before.

Medical Society of Virginia Cancer Committee

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September 1, 1951

Case Reports

Case I. A 40 year old man developed hemorrhoids and began passing small quantities of bright red blood. After treating himself with an ointment and suppositories without lasting relief for nine months, he visited his physician who at once advised hemorrhoidectomy. This operation was performed without investigation other than inspection of the anus — a barium enema was not done, a proctoscopic examination was not done, even a digital rectal examination was omitted. Intermittent bleeding persisted after the operation and six months later, the first physician referred his patient to another doctor. The second doctor proceeded to investigate the large bowel. The digital rectal examination was negative, but on proctoscopy, a large ulcerated polypoid tumor was seen. Biopsies were reported as showing adenocarcinoma. X-ray examination of the colon with barium enema and air insufflation demonstrated, in addition to the rectosigmoid lesion, a small polyp in the mid-descending colon.

An abdominoperineal resection was performed. At the same time, the polyp in the descending colon was removed. Pathological study showed that the rectosigmoid carcinoma had arisen in a sessile polyp and had extended through the bowel wall. Most of the regional nodes contained metastases. The polyp from the descending colon was benign, but the extent of the rectosigmoid tumor made the prognosis poor.

Comment: 1. The cause of bleeding by bowel must never be accepted as due to something other than cancer until the possibility of cancer has been meticulously excluded.

To quote David State of the University of Minnesota's Department of Surgery, "The only significant early symptom of colonic or rectal cancer is bleeding. More than 80 per cent of patients with early cancer of the large bowel will have recognizable blood passed per rectum. Altered bowel habits, loss in weight and strength, and anemia usually indicate the presence of a carcinoma which has been present for some time (one or two years). Other causes of rectal bleeding, such as hemorrhoids and fissure in ano are much more frequent than cancer, but in no case should the source of bleeding be accepted as coming from the hemorrhoids or fissure in ano, even when they are present. Colon and rectal cancer must **always** be ruled out." Indeed there is evidence that rectal cancers cause hemorrhoids. To quote E. P. Lehman of the University of Virginia Department of Surgery, "Occlusion of venous return toward the abdomen either by pressure or by the invasion of veins by tumor, together with the increased arterial circulation that many tumors develop, presents a possible mechanism for this sequence. In any event, no physician is justified in treating hemorrhoids by excision or otherwise without first visualizing the entire rectum through the proctoscope."

2. Investigation of the large bowel consists of three procedures, no one of which may be omitted, even though one or both of the other two have proven positive. These procedures are the digital rectal examination, by which 40 to 50 per cent of all large bowel tumors may be discovered; the proctoscopic examination, by which approximately another 15 per cent may be visualized; and x-ray examination of the colon with contrast media.

The above case illustrates the necessity for carrying out all three procedures, regardless of the findings uncovered by one or both of the others. Multiple tumors of the colon are not at all rare. The entire colon must be investigated before treatment can be planned intelligently. Though the polyp in the descending colon in this case proved benign, polyps of the large bowel are precancerous lesions which should be removed whenever possible.

3. Every physician who undertakes to perform a complete physical examination — general practitioner, internist, or surgeon — should be prepared to employ the proctoscope routinely. This is neither a difficult nor dangerous procedure. A recent excellent brief presentation on this subject, including technique, is contained in the June issue of **Postgraduate Medicine,** "Anorectal Examinations in General Practice" by Malcolm R. Hill of Los Angeles.

Case II. With the kind permission of Dr. Daniel Laszlo and his associates of Montefiore Hospital, New York City, the following history is presented.

A 61 year old female was admitted to Montefiore Hospital in December, 1947, with a diagnosis of carcinoma of the rectosigmoid with multiple metastases and paraplegia.

Her first hospital admission was in August, 1942, because of "weight loss, bloody

stools, weakness, increasing constipation, and cramp-like pain in the left lower abdominal quadrant" of eight months' duration, which increased in severity so that intestinal obstruction was diagnosed. Proctoscopy was not done. At operation, the surgeon described "a mass at the rectosigmoid junction constricting the lumen and infiltrating into the retrocolic tissues, firmly bound down to the pelvis." The clinical diagnosis was inoperable carcinoma of the rectosigmoid, a colostomy was performed, but no biopsy was taken.

Between August, 1942, and December, 1947, she was hospitalized four more times with progressive symptoms — pain in the legs, inability to walk, atrophy of the legs, bilateral paralysis, urinary incontinence, abdominal pain, and decubitus ulcers. Each time, she was discharged with a diagnosis of further extension of an inoperable carcinoma of the rectosigmoid, although the operative diagnosis was never confirmed by biopsy or endoscopic examination and the general nutrition remained good.

Referred for her sixth hospitalization to Montefiore in December, 1947, a complete work-up was finally done, over five years after she first sought medical advice. Proctoscopy and x-ray examination of the colon with barium, both below and above the colostomy, failed to demonstrate a carcinoma of the colon. However, spinal fluid examination with manometrics and myelography demonstrated a block in the spinal canal. At operation, an extramedullary, intradural tumor extending from T-7 to T-8 and markedly compressing the cord, was successfully removed. The microscopic diagnosis was benign psammomatous meningioma. There was some recovery from the paraplegia, but the cord pressure was so long-standing that most of the damage was permanent, and the patient died a year later. At autopsy, no pelvic malignancy was found.

It is a well known fact that cord tumors may produce symptoms suggestive of intestinal obstruction.

Comment: 1. Tissue diagnosis is completely dependent upon microscopic examination. A physician who thinks that palpation and inspection plus his clinical judgment suffice to make a pathological diagnosis deludes himself and endangers his patients. No matter how obvious a diagnosis appears clinically, it can be established only by microscopic study of a biopsy specimen.

2. Like proctoscopy, the taking of a biopsy is a simple procedure which should be a part of every physician's routine practice.

3. In the above case, either proctoscopy, x-ray examination of the colon, or biopsy at the time of exploration would have avoided an erroneous diagnosis, because of which a benign, readily removable tumor was unsuspected for over five years, during which time fatal damage to the spinal cord was produced by unrelieved pressure.

Case III. A 26 year old man passed considerable bright red blood with and immediately after a stool. Frightened, he examined the stool, found a piece of tissue, and took it to his family physician. The tissue was submitted to a pathologist who reported an adenocarcinoma arising in an adenomatous polyp. At proctoscopy, the stump of the polyp was found at the five-inch level on the left wall of the rectum. No other polyps were found, either by proctoscopy or x-ray sudies. A wide resection of the bowel wall surrounding the pedicle was done. The pathologist found no malignancy in the pedicle or adjoining tissues.

Comment: 1. Prompt action by an alert patient and a careful physician led to discovery of an early rectal cancer. The prognosis is excellent.

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October 1, 1951

Case Reports

Case I. A 64 year old man was referred to a Tumor Clinic for a palliative colostomy to relieve distress due to progressively severe obstruction of the sigmoid by an inoperable carcinoma with pelvic metastases. The referring doctor stated that he had first seen the patient eighteen months before, at which time he gave a history of bouts of low abdominal cramps, constipation and bloody diarrhea, weakness, and fever. Symptoms had been present for about a year, were becoming more frequent. Rectal and proctoscopic examinations were negative, but x-ray examination demonstrated "diverticula of the sigmoid, and a deformity probably representing carcinoma." A surgical exploration was performed. Extensive infiltration and fixation of the sigmoid was found and there were numerous enlarged glands in the areas of regional drainage. The surgeon felt that there was no need of a biopsy to establish the obvious diagnosis of carcinoma of the sigmoid. Also he felt that the palpable lymphatic metastases were too extensive to attempt a surgical cure so he simply closed the wound, later advising the patient and his physician that a colostomy should be performed when obstruction became more severe. As obstructive symptoms were now quite severe and the patient's general condition was deteriorating, the physician sent him to the Tumor Clinic to have his colostomy. Again, rectal and proctoscopic examinations were not helpful. The x-ray findings were reported as demonstrating an extensive sigmoid diverticulitis and a deformity, not characteristic of carcinoma, but so severe that the possibility could not be ruled out. At exploration, the sigmoid was found incorporated in a bulky hard mass and numerous enlarged glands were found. On frozen section of several of the glands and of several biopsies from the mass, the pathologist reported he could find no carcinoma, only inflammation. Therefore surgery was confined to resection of the involved length of bowel and an end-to-end anastomosis. Careful pathological study of the surgical specimen revealed no carcinoma, only an unusually severe chronic inflammation, apparently due to diverticulitis. The patient made a good recovery and resumed activities in which he had not been able to engage for several years.

Case II. A 53 year old woman was hospitalized for study because of symptoms suggesting a partial obstruction in the left side of the colon. The outstanding finding of a complete study was the x-ray demonstration of sigmoid diverticulosis and a pronounced deformity of the sigmoid interpreted as representing inflammatory changes secondary to diverticulitis. The patient responded nicely to antibiotics and was discharged after a second x-ray study by means of barium enema had demonstrated a partial disappearance of the sigmoid deformity. During the next six months, recurrent symptoms led to repeated x-ray studies and additional treatment on three occasions. Varying degrees of diverticulitis were reported by the roentgenologist until the last examination when a change in the contour of the deformity was noted, suggesting the development of a carcinoma in the area of diverticulitis. At surgical exploration, a bulky mass was found in the upper sigmoid and also many enlarged glands. Frozen sections were reported by the pathologist as showing carcinoma in both the biopsy from the mass and in one of several glands. Nevertheless, a length of bowel including the mass was resected and an end-to-end anastomosis performed. The patient did nicely for nearly a year, then with the appearance of liver and abdominal masses, a downhill course began which, in spite of palliative radiation therapy, ended in death two years after operation.

Comment: 1. Case I is another example of what can happen when biopsies are omitted because of reliance upon inspection, palpation, and clinical judgment. A patient who never had cancer at all was diagnosed as having a hopelessly advanced cancer. He endured eighteen months of mental anguish and physical incapacity when all that time he was suffering, not from incurable cancer, but from a chronic inflammation amenable to surgery.

2. In Case II, the stage of the cancer when exploration was finally resorted to makes it almost certain that the lesion had been present when earlier x-ray studies were done.

The tumor had simply been obscured by the diverticulitis. Too great reliance upon roentgenological interpretation led to a fatal delay in correct treatment. Roentgenological interpretation is no more a substitute for pathological diagnosis than is clinical judgment.

3. Though there is no evidence that diverticulitis predisposes to carcinoma, these conditions are both fairly common in the sigmoid and may co-exist. The two cases demonstrate the confusion that readily arises. The demonstration by x-ray examination of a sigmoid diverticulitis should serve to alert all physicians involved to the possibility of concomitant carcinoma. If the diverticulitis is severe enough to alter the bowel contour significantly, surgery is usually indicated, both to find out whether an obscured carcinoma is present and to resect the diverticulum bearing portion of the bowel.

4. In Case I, even if his clinical diagnosis had been correct, the first surgeon showed poor judgment in not resecting the sigmoid. When the primary tumor is resectable, it should be removed, even though distant metastases are demonstrable, to relieve obstruction and to remove a source of hemorrhage and infection.

Medical Society of Virginia Cancer Committee

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November, 1951

Cancer of the Lung

Primary pulmonary malignancy is on the increase. Since chronic irritation is a known factor in carcinogenesis, probable explanations are that a constantly higher percentage of our population lives in the smoky, dusty air of cities and that the use of cigarettes is increasing. In Virginia in 1930, 42 deaths from cancer of the lung were reported, in 1950, 103. Most of the victims are men over 50, but women and the younger age groups are not immune. Similar increases, too great to be explained as due to more accurate diagnosis, are reported throughout the country.

Until 1933, primary pulmonary carcinoma was a disease which physicians had no means of curing. In that year, Graham and Rienhoff individually performed successful total pneumonectomies for carcinoma. During the intervening years, hundreds of people, most of them victims of cancer of the lung, have survived the operation. Improvements in technique, in combatting shock, and developments in anaesthesia and chemotherapy, have reduced the mortality rate from around thirty per cent to the neighborhood of twelve per cent. Old age is not a contraindication to the procedure which has been successfully carried out on patients in the late sixties. The compensatory power of the remaining lung has been found to be so great that loss of a lung has proven a minor physical handicap, disturbing to professional athletes only. Nor is the operation usually deforming, the thoracic cage remaining intact because, in the absence of complications, thoracoplasty is unnecessary.

As to the value of the operation in pulmonary carcinoma, the end results of a method of treating cancer cannot be accurately stated on the basis of only eighteen years experience, particularly since few of the total pneumonectomies were done in the first part of the eighteen year period. However, the following statements cannot be disputed:

1. A number of people are living and apparently free of disease five years after total pneumonectomy for primary cancer of the lung, and a few are living and well ten years or more after the operation. **The possibility of cure of a hitherto incurable disease has been established.**

2. These tumors are uniformly radioresistant. **Pulmonary resection, preferably total pneumonectomy, including removal of the bronchial and tracheal nodes on the affected side, offers the only possibility of cure.**

3. If a cure is to be attempted, **the patient must come to surgery before the cancer has involved the pleura and before it has metastasized beyond the bronchial and tracheal nodes on the affected side.**

4. The operative mortality rate compares favorably with that of most major surgical procedures, and is steadily decreasing.

In view of these facts, it is of vital importance that laymen be instructed in the early symptoms of primary pulmonary malignancy so that they will seek medical advice early; and it is of even greater importance that physicians refer suspicious cases to a competent thoracic surgeon while the disease is still in an operable stage.

Unfortunately, cancer of the lung produces no characteristic clinical picture. The most frequent cause of delay, and almost invariably a fatal delay, in diagnosis of cancer of the lung is the making of a clinical diagnosis, without careful investigation, of tuberculosis, lung abscess, unresolved pneumonia, bronchiectasis, or heart disease.

Early Symptoms:

Cough — The majority of adults suffer to some degree from a chronic cough. When the cough deviates from normal for the individual, immediate investigation is indicated. In seventy to seventy-five per cent of pulmonary cancer, unusual cough is an early symptom.

Hemoptysis — In about sixty to sixty-five per cent of cases, hemoptysis, varying from streaking to copious expectoration, is an early symptom. Occasionally tuberculosis and cancer occur in the same lung. Even in the presence of a few tubercle bacilli in the sputum, in the absence of conclusive x-ray evidence of tuberculosis or bronchiectasis, hemoptysis should be considered as due to an intrabronchial growth, and this probability immediately investigated.

Pain — Occurring in about fifty per cent as an early symptom, pain from cancer of the lung is a constant, deep, dull ache, usually at

the level of the tumor. It is presumed to be due to pressure by the tumor on the bronchial wall. It is not a pleuritic pain, which is associated with the respiratory cycle, and of course, pain due to invasion of the chest wall and brachial plexus is a late manifestation.

Loss of Weight — In about forty per cent of cases, there is an early, striking loss of weight, more than can be explained by cough and hemoptysis, and the worry incident thereto. In these cases, following pneumonectomy, though only a relatively small growth is present, there is a prompt, striking gain in weight.

Hyperpnea — About twenty-five per cent of patients experience a sudden paroxysmal desire to breathe deeply, almost an air hunger. It lasts from a few seconds to a few hours. A possible explanation is that a bronchus partially occluded by a tumor is suddenly further occluded by a mucous plug.

Pneumonitis — Infection behind a point of partial bronchial obstruction readily occurs. Pneumonitis is seen in about fifteen to twenty per cent of early lung cancers. **Since the signs and symptoms are only those of uncomplicated pneumonitis, and since inflamation readily maks tumor on x-ray, all pneumonitis should be followed by x-ray until it has cleared.**

A history of frequent attacks of pneumonitis calls for investigation of the respiratory tract. The following case history is typical of that given by many patients seen by thoracic surgeons in an advanced stage of pulmonary cancer:

A 53 year old white man was hospitalized with a clinical diagnosis of pneumonia. X-ray revealed a large area of pneumonitis in the right upper lobe. He responded well to medical treatment and was discharged without a follow-up x-ray. He returned six months later, stating that he had never gotten over a residual cough and had had several milder attacks of acute upper respiratory infection. X-ray showed a dense irregular shadow in the region of the former pneumonitis, and enlarged hilar nodes. At bronchoscopy, inoperable carcinoma was found.

Diagnosis:

Chest x-rays, while often not diagnostic, very rarely fail to show an abnormal shadow of some sort while the cancer is still in an operable stage. An infiltrative hilar shadow is most frequent, but shadows cast by atelectasis, bronchiectasis, abscess and pneumonitis secondary to tumor are frequent.

By means of **bronchoscopy,** visualization of the tumor and a positive biopsy are possible in about seventy-five per cent of cases.

Bronchography is useful in revealing the presence of an intrabronchial tumor too small to show on x-ray. Such tumors are usually benign.

When a definite diagnosis cannot be arrived at by other means, in the presence of signs and symptoms suggestive of cancer, exploratory thoractomy should be done routinely. Advising a patient to "wait and see what happens", if the signs and symptoms should be due to cancer, only insures you of the duty of signing his death certificate.

* * * * *

For a Clear Conscience, Be Cancer Conscious!

Medical Society of Virginia Cancer Committee

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December 1, 1951

Bone Cancer

The problem of cancers which, in their early stage, are not accessible to palpation, direct inspection, or inspection through simple scopes is admittedly disheartening. Yet when we analyze any one group, we usually find several points, attention to which promises improvement in present poor results.

The most common primary bone cancers are osteogenic sarcomas, chondrosarcomas, fibrosarcomas, and Ewing's tumors or endothelial myelomas. Most of them develop in the age group between fifteen and thirty-five. No part of the skeleton is immune, but the distal portions of the long bones are the most frequent site. Ewing's tumors can be counted on to appear at unexpected locations.

Bone cancers, fortunately rare, pose at best an extremely difficult problem in early diagnosis. Yet without early diagnosis, even worthwhile palliation can often not be accomplished.

The average interval between appearance of the first symptom of primary bone cancer and institution of surgical or radiologic treatment is from ten to twelve months. Only by shortening this interval can mortality be reduced. The interval can be shortened by careful attention to **the one symptom that usually occurs early in the development of a bone sarcoma — pain.**

In the early stage of a slowly growing tumor, moderately severe pain is usually the only symptom. There may be just a feeling of "something wrong." Sometimes pressure on the part does not produce pain but use of the part does. The discomfort may be constant or intermittent, and is sometimes dismissed as "growing pains" of childhood. Incidentally, the term "growing pains" should be deleted from the medical vocabulary. Trauma excepted, bone and joint pain in childhood is almost invariably due to one of three diseases, rheumatism, bone tumor, or osteomylitis, all three of which require prompt, vigorous treatment.

When, as is less frequently the case, the tumor is a rapidly growing one, the pain is often intense, cyanosis and venous dilatation are seen in the overlying skin, and a systemic reaction, manifested by fever, takes place.

Most striking is the frequent coincidence of trauma and subsequent discovery of a bone cancer. That there is any casual relation between trauma and the origin of the cancer is now generally discredited, but most bone tumor patients volunteer the information that an injury marked the beginning of their trouble.

Early diagnosis depends on prompt investigation of bone pain which persists more than a week. A history of recent trauma must not be accepted as an explanation but must be recognized as an added danger signal.

A painstaking physical examination should be followed immediately by an **x-ray consultation.** The changes in bone or periosteum may be so slight that they would not be discovered in a routine x-ray examination, whereas, if attention is focused on a clinically pre-determined area the pathologic process may be discovered. The radiologist must be consulted as a clinician interested in the investigation of disease by a special method, not as a photographer of the human body. To demonstrate an early bone tumor, he must frequently obtain views of the area under suspicion in multiple planes, make plates of corresponding bones for comparison, and also x-ray other parts of the skeleton. In addition, when his initial results are suspicious but inconclusive, he must do repeated examinations.

The next step is **surgical consultation to decide on the advisability of biopsy.** Since it is difficult to obtain diagnostic material by biopsy, even multiple biopsies, from a bone tumor, the radiologist, surgeon, and pathologist must consult together to determine the site of sites of biopsy. Because of the limited value of bone biopsies for diagnosis of early cancers, the roentgen studies must often form the basis for decision as to treatment. In general, Ewing's tumors are treated by radiation, the osteogenic, chondro-, and fibrosarcomas by amputation.

Only by close collaboration between clinician, radiologist, surgeon and pathologist can the best results be achieved.

INVESTIGATE IMMEDIATELY AND FULLY BONE PAIN OF MORE THAN A WEEK'S DURATION, EVEN IF INITIATED BY TRAUMA.

THE FATE OF THE CANCER PATIENT IS IN THE HANDS OF THE FIRST PHYSICIAN HE SEES.

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